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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Oleg Zommers

Serial No.: Not yet assigned

Group Art Unit:

Filed: Herewith

Examiner:

For: **INTERACTIVE PERSONAL INFORMATION SYSTEM AND METHOD**

Commissioner for Patents
Box PATENT APPLICATION
Washington, D.C. 20231

Dear Sir:

Enclosed please find the following:

1. Specification, abstract and claims (5 independent, 513 total) (141 pages);
2. Informal drawings (3 figures, 3 sheets);
3. Declaration and Power of Attorney;
4. Verified Statement Claiming Small Entity Status - Independent Inventor;
5. One check in the amount of \$4990.00 (\$345.00 for applications, \$78.00 for excess independent claims, \$4,437.00 for excess claims, and \$130.00 for multiple dependent claims fees); and,
6. Certificate of Express mailing.

The Commissioner is hereby authorized to charge any fee deficiency, or credit any overpayment, to Deposit Account No. 18-1579. The Commissioner is also authorized to charge Deposit Account No. 18-1579 for any future fees connected in any way to this application. Two copies of this letter are enclosed.

Respectfully submitted,



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Jc858 U.S. PTO
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VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR

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Applicant or Patentee: Oleg Zommers

Serial or Patent No.: Not Yet Assigned

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Title: Interactive Personal Information System and Method

1c858 U.S. PTO
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As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.
- ☐ the application identified above.
- ☐ the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under convey or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that had made the invention, or to any concern which would not qualify as a business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(c).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.
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Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate.(37 CFR 128(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made an information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Oleg Zommers
NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

Signature of inventor

Signature of inventor

Signature of inventor

Date

Date

Date

26 June 2000

TITLE: Interactive Personal Information System and Method

INVENTOR: Oleg Zommers

1 This application claims the benefit of U.S Provisional Application No. 60/158,562, filed
2 October 8, 1999.

3 FIELD OF THE INVENTION

4 This invention relates generally to delivering personalized information to people. More
5 particularly, this invention is drawn to an interactive personal information system and method for
6 the delivery of information items collected from various sources to users by a publisher and/or
7 secondary publisher. Users have profiles which are used in the selection of the information and
8 can submit responses to the delivered information which are used to update their profile.

9 BACKGROUND INFORMATION

10 Various personal information delivery systems are known in the prior art. Numerous
11 services on the Internet, such as "My Yahoo" and "My Netscape", allow users to select which
12 news, sports, weather, etc. will be displayed on a customized Internet web page. As users
13 interests change, they must manually update their selections.

14 Certain Internet-based publications, such as ZDNet News with its "Talkback" feature (see
15 <http://www.zdnet/zdnn/>), allow readers to post responses to news stories. These responses,
16 however, are not used to determine which future articles will be available to those users who post
17 responses.

18 U.S. Patent No. 5,761,662 to Dasan discloses an Internet-based system for delivering
19 browser-based personalized newspaper to users based on their submitted profiles. Profiles are
20 changed by user editing.

21 U.S. Patent No. 5,537,586 to Amram et al. discloses a method for extracting a preferred

1 set of textual records from a database based on predefined category structures. A user manager
2 (i.e., not the subscriber) ranks relevance of records and the system compares samples of actual
3 usage by subscribers to update the subscriber profile. Information beyond usage data is not
4 collected from subscribers.

5 U.S. Patent No. 5,428,778 to Brookes discloses a database method and system for
6 disseminating information to a user which includes updating keyword parameters after comments
7 have been added to information items. User interest profiles are fixed by the users.

8 U.S. Patent No. 5,339,239 to Manabe et al. discloses a system for requesting and
9 receiving various kinds of service information from an organization's host computer via access
10 terminals, storing the information on IC memory cards, and looking at the information using a
11 portable personal terminal.

12 U.S. Patent No. 5,754,939 to Herz et al. discloses a system which assigns profiles to
13 target objects and users, compares the profiles to present a list to the user, and updates target
14 object and user profiles based on the objective feedback of user selection of target objects (i.e.,
15 usage data).

16 U.S. Patent No. 5,861,881 to Freeman et al. discloses a computer based, multimedia
17 program delivery system for interactively combining multiple audio/video data streams.
18 Interactive user commands control program presentation.

19 U.S. Patent Nos. 5,793,497 to Funk and 5,937,162 to Funk et al. discloses an e-mail or
20 facsimile "newspaper" delivery system with a user customized personal configuration file that
21 controls content, format, and timing of the delivered e-mails or facsimiles. Third party messages
22 can also be forwarded to users via the system.

23 U.S. Patent No. 5,890,152 to Rapaport et al. discloses a personal feedback browser and
24 personal profile database for obtaining media files. The browser selects files based on the

1 personal profile database and adjusts the personal profile database based on user selection and
2 absorption of media files (i.e., usage data).

3 U.S. Patent No. 5,699,526 to Siefert discloses a system for searching and ordering
4 resources based on database profiles.

5 U.S. Patent No. 5,724,424 to Gifford discloses a system for purchasing items on the
6 Internet wherein ads are displayed in response to user requests, and items are purchased and
7 delivered in response to a payment order message from the buyer or merchant computer.

8 U.S. Patent No. 5,931,901 to Wolfe et al. discloses a system and method for Internet
9 delivery of programmed music and targeted advertising messages based on subscriber dossiers
10 which are stored and updated. However, no data beyond usage data is collected or used to update
11 the dossiers.

12 U.S. Patent No. 5,918,213 to Bernard et al. discloses a system and method for automated
13 remote previewing and purchasing of multimedia products. A membership profile with payment
14 and shipping information facilitates automation of the process and minimizes repetitive input of
15 information.

16 U.S. Patent No. 5,845,262 to Nozue et al. discloses electronic delivery of press
17 information to vending machines where the information is written to a recording medium for use
18 by a consumer.

19 U.S. Patent Nos. 5,696,965 and 5,724,521 to Dedrick discloses a system for delivering
20 advertisements to users based on user profiles containing statistical data and U.S. Patent No.
21 5,710,884 to Dedrick discloses a system for automatically updating a personal profile based on
22 objective user information gathered from monitoring the users electronic consuming habits while
23 online (i.e., usage data).

24 None of this prior art discloses or suggests the collection of responses related to the

1 content, user requests, inquiry responses, and/or formalized user statements after delivery of
2 personalized information. Additionally, the prior art does not disclose or suggest multiple levels
3 of publishers and secondary publishers for the delivery of personalized information.
4

5 BRIEF SUMMARY OF THE INVENTION

6 It is an object of the present invention to provide interactive, personalized information to
7 users by having a publisher, or a multilevel structure of a primary and at least one secondary
8 publisher, collect information items into at least one database for periodic delivery of collections
9 of information items to users as personalized information. The collections are selected based on
10 user profiles that are refined based on collecting and analyzing responses from the users. The
11 personalized information can be delivered in various formats and can include various interactive
12 tools to increase its utility. Different levels of publishers can provide information items and
13 response analysis to other publishers. Information items can be sought by publishers based on
14 user requests and response analysis.

15 Various methods of increasing the utility of the information include: (i) delivering content
16 in a form suitable for use by a user to provide personal organizer functions and (ii) delivering
17 content in electronic form provided with interactive tools such as navigating tools, archiving
18 tools, annotating tools, calendar tools, printing tools, and communication tools.

19 More particularly, it is an object of the invention to provide a method of delivering
20 personalized information to users involving collecting information items, storing them on a
21 database, storing user profiles on a database, periodically delivering a collection of information
22 items to users as personalized information, wherein at least a percentage of content is chosen
23 based on their user profile, collecting responses related to the (i) subjective views of the content,
24 (ii) user requests, (iii) inquiry replies, and/or (iv) formalized user statements, and refining the

1 user profiles based, at least in part, on those responses.

2 It is yet another object of the present invention to provide a personal interactive
3 information system having: a database with a plurality of information items stored thereon, user
4 profiles stored on a database, means for periodically delivering a collection of information items
5 to said users as personalized information wherein at least a percentage of content is chosen based
6 on their user profile, means for collecting subjective responses from users related to the content,
7 and means for refining user profiles based, at least in part, on those responses.

8 This invention contemplates content from licensed commercial sources, free sources, and
9 independent authors. User responses can include request for specific information that can be
10 fulfilled by independent authors, who, in turn, can be compensated each time their content is
11 used. Information delivery channels include Internet web pages, FTP downloads, e-mail,
12 facsimile transmission, delivered paper hardcopy, magnetic media, optical media, broadcast TV,
13 and radio. Response analysis methods include using information space to derive information
14 vectors. Responses can also be independently analyzed for reasons other than refining user
15 profiles.

16 Another object of this invention is to provide information "personalized" for groups
17 wherein a plurality of users are associated as a group based on a common attribute, a group
18 profile is formed, a percentage of content delivered to said group is chosen based on the group
19 profile, group information responses are collected from the group regarding the content, and the
20 group profile is refined based, at least in part, on the group responses.

21 Yet another object of this invention is to collect subjective responses by having users
22 mark paper hardcopy response forms which are then machine-read. These forms can be
23 transmitted by facsimile with machine-reading performed by recognition software. It is an
24 additional object to provide these facsimile response forms with a section for users to create e-

mail by having users address and draft messages in said section, indicate whether to send said messages as text or graphics files, have the section recognized as text or graphics by recognition software, and having the message sent, as addressed, in the indicated format.

It is an additional aspect of this invention to have the user, or a third party designated by the user, select when the information is delivered, such as by time interval, information size, or specific event.

It is yet another object of the invention to allow for user access to certain information items to be linked to the performance by the user of additional tasks, such as authorizing payment or viewing and/or responding to other information items.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 discloses a general overview of a publisher embodiment of the invention with an optional distributor.

Figures 2 disclose a detailed view of the publishing system of the present invention.

Figure 3 discloses a multilevel, hierarchical embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

As used herein, the following terms have the following meaning.

Personal or personalized information is any kind of text, audio, or video information delivered to each user.

Information item is a particular self-contained unit of text, audio or video material.

Collection of information items is any set of information items.

Personal information collection is a collection of information items generated personally for each user and periodically delivered to said user.

1 *Issue of personalized information* is one copy of the periodically delivered personal
2 information collection.

3 *Information publication* or *publication* is the same as a collection of information items.

4 *Issue of publication* is one copy of the periodically delivered information publication.

5 *Publisher* is a person or a company who generates and delivers to users collections of
6 information items.

7 *Distributor* is a person or a company who delivers to users collections of information
8 items generated by a publisher.

9 *Primary publisher* is the main publisher in multilevel hierarchical structure of publishers
10 which is on the top of hierarchy and is responsible for personalized information in general.

11 *Secondary publisher* is any publisher in multilevel hierarchical structure of publishers
12 other than primary publisher.

13 General Concepts

14 The technical result to be achieved with this invention is an increased efficiency for the
15 system's users by providing them with text, audio and video materials most relevant to their
16 fields of interest and individual preferences; enhanced selectivity and customization of the
17 personalized information that will approach as close as possible the users' individual preferences
18 as statistics on actually collected materials are accumulated; continuous adaptation of materials
19 offered to the changing needs of the users; an expanded range of potential distributors of the
20 personalized information and a shorter period of its delivery; optimization of the network
21 infrastructure enabling generation of a virtually unlimited set of topical information collections
22 while retaining a single center which implements the search for, selection, indexing and
23 systematization of materials; and an expanded range of the information sources which are used in
24 generating personalized information.

1 The invention is based on the proposal that personalized information should be prepared
2 not only on the basis of user-selected topical sections but also on the basis of processing data on
3 the materials they have collected before and analysis of their responses as to the quality of the
4 materials and whether they fall within their fields of interest. User's psychological-type may be
5 taken in consideration during personalized information generation and delivering. This makes the
6 system capable of self-teaching and produces a very high customization level for the personalized
7 information which will continuously increase as individual statistics accrue. The user-selected
8 topical sections are only important at the initial stage of the user's interaction with the system,
9 when the first issues of the personalized information are prepared with little or no statistical data
10 on the specific field of interest or preferences of the user. Their role will be continuously
11 decreasing as information on actually collected materials is accumulated. Personal topical
12 interests, preferences and psychological-type of each user are stored in the user's user profile.
13 The principal role in the preparation and distribution of personalized information is played by its
14 publisher, who selects information materials from the available sources and places them in each
15 current issue of the personalized information, which can be thought of as a publication. Each of
16 such issues may be prepared personally for each user or group of users, based on their field of
17 interest and preferences.

18 A group of users is hereinafter understood as those users who have common interests or
19 other common attributes and receive personalized information, at least a part of which is
20 common to all members of the group and adapted to their group interests through a combined
21 analysis of responses from all the group members. In other words, each new issue of the
22 personalized information will include those information materials that fall within the field of
23 interest and meet the preferences of one or more members of the group.

24 Personalized information can be distributed both directly by the publisher via his own

1 information server and over a network of independent distributors authorized by the publisher to
2 register users and distribute the personalized information via their servers. This allows, first, a
3 virtually unlimited expansion of the range of distributors and, second, a specialization of the
4 personalized information by a preferred incorporation of those topical materials that fit the field
5 of interest of a specific distributor. However, the publication itself will always be prepared in a
6 centralized manner, that will not require the independent distributors to use high computer
7 capacity, lease expensive dedicated information channels or employ special staff to operate the
8 server segment of the system.

9 Anyone who has access to the information server of the publisher or one of the
10 independent distributors over the Internet or via any other communication channel or connection
11 may subscribe to receive personalized information. To this end, it is enough for a user to register
12 on the server of the publisher or a distributor, indicating an initial field of interest and carrying
13 out some additional setup in order to define the method for delivery of the personalized
14 information, the volume of each issue etc. Registration through a distributor's server enables the
15 prospective user to receive a specialized personalized information preferably including text,
16 audio and video materials on a certain topic that reflects the field of interest of the distributor.
17 For instance, a car showroom owner could become a distributor of specialized personalized
18 information devoted to automobile issues, and its subscribers would receive the most complete
19 information on this specific topic.

20 Each subscriber to the personalized information will be assigned a unique password or
21 identifier in order to access the server of the publisher or an independent distributor. This
22 warrants absolute confidentiality of information and reliable delivery of the publication
23 personally to its subscriber. The password assigned during registration will be used whenever the
24 information server is accessed to receive another issue of the publication or modify the individual

1 setup parameters. It can be changed at the user's desire at any time after the initial registration.

2 Any user can use a user terminal in order to work with an issue of personalized
3 information, including initial registration, initial selection of topics and parameter setup. The
4 most important example of a user terminal is a personal computer connected to the Internet or
5 having access to the server of the publisher or an independent distributor via any other channel or
6 connection. If a user terminal has no physical capacity of feedback to the publisher's server,
7 issues of the personalized information could only be adapted to the user's field of interest and
8 preferences by the user's selecting those topical sections and fields which he is interested in.

9 The user-defined parameters of personalized information will determine the mode of its delivery,
10 the maximum volume of each particular issue and a number of other auxiliary characteristics.

11 Users can learn about the existence of personalized information and obtain details of its publisher
12 and distributors through periodically updated advertisements or advertising collections of
13 information items published and distributed by the publisher via generally available printed and
14 electronic media. In particular, promotional issues of the personalized information, updated on a
15 daily basis, may be posted on the websites of the publisher and independent distributors. They
16 should include materials reflecting as fully as possible the fields of interest of all previously
17 registered users. In addition, these issues could be generated in accordance with the personal
18 profiles of topical fields furnished for this purpose by any of the previously registered users.

19 Each issue of the personalized information is delivered to users directly via the
20 publisher's server or via the server of one of the independent distributors. In one embodiment, the
21 user should first contact the server indicating his individual password or identifier. One of the
22 available delivery options should be selected by the user as part of the system's setup. The
23 simplest of them is delivery at the user's direct request sent to the publisher's or distributor's
24 server. Another basic option is delivery of current issues according to a user-defined schedule.

1 More complicated options require to specify an event upon the occurrence of which a new issue
2 should be delivered to the user. An example of such an event is the accumulation of a user-
3 defined amount of unpublished information materials that should be enough to generate a new
4 issue. Also, the user may designate a third party to decide when the information get delivered.

5 When delivery is in response to a specific event, the personalized information can be
6 limited to a single information item concerning the event.

7 All issues of the personalized information prepared on the publisher's server will be
8 stored in the central database. This will enable the user both to refer to new and return to
9 previously received issues. Once a request for a new issue is received from the user, the central
10 database will be checked for any issues yet undelivered which have been generated for this user
11 or group of users. If any of them is available, it will be promptly delivered to the user. If there are
12 no issues that have not been previously delivered to the user, a request will be formed for
13 generation of a new issue that then will be placed in the database and sent to the user.

14 The information sources for the preparation of issues of personalized information may be
15 represented by news and topical sites, channels of authorized news agencies and independent
16 authors who prepare materials for this specific publication. The search engine of the publisher
17 will be continuously monitoring all changes within a certain predefined set of authorized
18 information sources and, wherever new materials appear, download and save them in an interim
19 search database. Then, after they are evaluated for usability in generating future issues of the
20 personalized information and, possibly, preliminarily indexed and classified into topical fields,
21 all newly retrieved materials will be transferred to the publisher's central database. They will be
22 taken out of it when a new issue of the publication is prepared in accordance with the individual
23 fields of interest of a certain user or group of users.

24 Independent authors supply information materials to the publisher through the author's

1 or separate psychological profile.

2 The user profile will further be adjusted, first, on the basis of a review of processed data
3 on the materials previously collected by the user and, second, on the basis of a review of any
4 responses received from the user concerning the quality of the materials and their conformity
5 with the field of his interest. This establishes a dynamic feedback of the personalized
6 information's users directly to its publisher. For the users forming a group according to their
7 interests or some other common attribute, their common group profile will be generated, and may
8 be subject to adjustment through analyzing the topics of the materials collected by all member of
9 the group and any responses received from them. Each member of said group can specify the
10 portion of information materials delivered based on his individual user profile and the portion
11 delivered in accordance with group profile. Moreover, the portions of information items
12 delivered based on individual or group profiles can be specified by a third party.

13 User profiles are allowed to be used not only for customization of the personalized
14 information but for some special reasons such as marketing researches, interrogation of public
15 opinion, psychological testing, etc.

16 A user's response to each specific item of material published in any issue of the
17 personalized information will be forwarded to the publisher's server either as an evaluation of the
18 quality of the information material and its conformity with the user's field of interest or in the
19 form of comments. Quality may be evaluated using a conventional scale in points or in a similar
20 manner, e.g. by appropriate positioning of the marker on the display of the user terminal.
21 Comments are represented by ordinary text expressing the user's detailed attitude towards the
22 material supplied. Either, the user's response should be transmitted to the publisher's server in a
23 formalized manner suitable for automatic computer processing. The user's response on paper can
24 be entered and transmitted to the publisher's server using a scanning device.

1 The publisher of personalized information can include into the issues of publication
2 certain information materials the user is particularly interested in. The publisher may require this
3 user to provide pithy responses to another information item included into the issue before being
4 allowed to access the first item.

5 In order to expand the overall outlook of a user of an issue of personalized information
6 and to keep him better informed of possible topical fields, each issue of the personalized
7 information may, in addition to information materials fitting the adjusted user profile of the user
8 and/or group of users, include the publisher's materials which were deemed most important at the
9 time of generation of the issue. The collection of those, as well as any other, materials by the user
10 will influence further adjustments to the user's user profile.

11 When ordering some information materials from a publisher or distributor or specifying
12 the fields of topical interest, a user can specify a priority for each ordered material or topical
13 field. Moreover, prioritizing can be assigned manually (i.e. by the editor) or automatically to all
14 information items collected by a publisher from information sources. Those information
15 materials to which the higher priority has been assigned, are included into issues of personalized
16 information on that basis. Materials of lesser priority are included into the current issue of
17 personalized information if there is any free space before reaching the maximum volume of a
18 particular issue, specified by a user, or are postponed up to the subsequent issues. Usage of a
19 priority allows, in particular, the subdivision of all information materials into hot news or other
20 priority information items or topical fields, and additional comments to them. Hot news, that is
21 the messages with a priority, are supplied to the user in the nearest issue of personalized
22 information. The further comments to them, having a lower priority, will be included into the
23 subsequent issues of personalized information or user can refuse them at all. In general, a user
24 orders additional comments to hot news or other priority information items using a specific

request. If the event designated in hot news admits the comments from various points of view or submitted by various authors, the user specifies from what positions and by which of the authors the appropriate event should be commented. Only information materials satisfying those requirements will be included into the subsequent issues of personalized information.

A user of personalized information can require some information item to be continued in at least one of the next issues of personalized information keeping its topical field. From another hand, a user can require some additional information items submitted by the same independent author. These requirements are transmitted to a publisher or distributor of personalized information as a special kind of response containing the request for continuation. Such responses are processed using a special algorithm and generally do not influence a current state of user's profile but are fixed in publisher's database as a separate tag. That is, for example, because information materials having continuation, can relate to some urgent events (fast changes of a political or economic situation, etc.). These events are interesting to a user at the moment of their urgency, but the field of knowledge, in which they occur, does not belong to the field of constant interests of the user. Therefore events, which have interested the user, should not influence the user's user profile. If necessary, the user may need to eliminate some topical sections from his user's profile.

Users of personalized information can also be granted an opportunity to subscribe to the user profiles of other users, provided that the latter have opened their respective profiles for general access. Selecting one of the most suitable profiles would allow newly registered users of the personalized information to adapt its issues to their own interests as quickly as possible. More generally, each user is allowed to import any user profile exported by another user.

Independent distributors will participate in generating issues of the personalized information for their subscribers by establishing a number of topical sections and delivering to

the publisher's server their own topical and advertising materials. These topical sections and materials will reflect the field of interests of the specific distributor. Their involvement and use in generating issues of the personalized information will result in generating a specialized publication devoted to the topics that this distributor is interested in. All users registered via the server of an independent distributor will be provided with a specialized topical issue of personalized information reflecting the interests of this distributor. In this case, adaptation to the individual interests of the user or group of users will be carried out in a usual manner, but taking into account the core topics of the specialized personalized information. In addition, independent distributors will also have influence on the generation of issues of the personalized information by introducing their own mechanism for processing users' responses to published materials.

The form in which an issue of personalized information will be delivered to the user terminal will be determined by whether or not the publisher has legal rights to distribute information materials via his server. If the publisher has no such rights, the issue of personalized information will be generated as a set of headlines with summaries of the relevant materials. If one of the headlines is selected at the user terminal, the user will be given access directly to the original information source and, simultaneously, identification details of the collected material will be sent to the publisher's server for further review in order to adjust the profile of the user and/or group of users. In this case, the level of the user's opportunities to work with materials from the personalized information will be determined by the server of the original information source. If the publisher is entitled to distribute information via his server, the personalized information will be generated as headlines with summaries and also include all the respective information materials. When one of the headlines is selected at the user terminal, the user will promptly be granted access to the relevant text, audio or video materials without the need to refer to any outside information sources. Similar to the above, identification details of the collected

1 material will be sent to the publisher's server for further review in order to adjust the profile of
2 the user and/or group of users.

3 If a user has an interactive user terminal, he will be granted an opportunity and the
4 necessary facilities for interactive work with the materials of the personalized information. The
5 pattern of such work depends on whether or not the publisher has legal rights to distribute
6 information materials via his server or otherwise is determined by whether or not full versions of
7 text, audio or video materials are incorporated in the personalized information. Very generally,
8 this work includes the generation of individual collections of information materials from various
9 issues of the personalized information, establishment of personal information archives, addition
10 of personal comments on materials, placement of bookmarks in selected places in the
11 publication's issues indicating a time to refer to them in the future or activating upon the
12 occurrence of a user-defined event, and addition of new materials to the current issue of the
13 personalized information.

14 If the personalized information is made up by text documents and if issues of this
15 personalized information contain full texts of information materials, then, at the user's request,
16 the publisher's server adds formatting to the current issue or a user-defined subset of its articles
17 in order to print it out or transmit it by fax. A formatted copy of the issue will be sent to the user
18 terminal and all further work with it can be done without involving the publisher's or distributor's
19 server. In addition, at the user's request and if the user terminal has appropriate physical
20 capability, the user can be provided with a sound version of the current issue of personalized
21 information.

22 If the personalized information includes audio materials, then, at the user's request, the
23 publisher's server can generate a formatted printed version of its current issue that then will be
24 forwarded to the user terminal.

1 Registration requires the system's user to enter some information needed by the server to
2 unambiguously identify the user and to allocate the required resources to him. One should
3 distinguish primary registration and registration upon a subsequent entry into the system, e.g. to
4 obtain the current issue of the personalized information. They may differ in the amount of
5 information to be entered. For instance, it would quite enough to type the user's individual
6 password or identifier for a subsequent entry.

7 The working parameters in the user profile determine the overall functionality of the
8 system and allow its setup in accordance with the individual requirements of a specific user. The
9 most common set of functions and parameters to be set up includes the initial selection of
10 information sections, selection of the delivery mode and definition of the maximum volume for
11 each particular issue of the personalized information. The maximum volume can be specified, for
12 example, as a number of pages if the personalized information is made up by text documents or
13 in time necessary for the user for perusal, listening or review of information materials.
14 The selection of information sections is important for generating the first issues of the
15 personalized information. The selected sections will mark the user's field of interest, and the core
16 material of the publication will be gathered in accordance with them. Any additional material
17 may be included by the server directly serving the user, depending on the adopted strategy of
18 generating each issue of the personalized information. As statistics on the materials collected by
19 the user grow, the initial selection of sections will have ever-decreasing influence on generating
20 each subsequent issue of the personalized information.

21 Delivery And Interactive Tools

22 Personalized information is delivered to users by at least one of the following channels:
23 Internet web pages, FTP downloads, e-mail, facsimile transmission, delivered paper hardcopy,
24 magnetic media, optical media, broadcast TV, and radio.

1 With respect to the delivery mode, four main strategies of delivering new issues to users
2 should are contemplated: upon request, according to a schedule, upon the accumulation of a user-
3 defined amount of new materials, and upon the occurrence of a user-defined event.

4 The volume of each particular issue may be fixed by indicating, for instance, the
5 maximum allowable number of text pages for text publications or the playback duration for audio
6 and video materials. Moreover, the volume of text publications can be specified as average time
7 necessary for a perusal of information materials. A smaller volume of an issue will lead to a more
8 stringent strategy of material selection.

9 The appearance of a publication and work with it will substantially depend on the legal
10 rights of its owner or publisher to any information it supplies and his ability to edit materials
11 received from various sources. Two basic alternatives are possible here.

12 If the owner of the publication has no rights to direct distribution of information through his
13 server, then each issue of the publication will look like as a set of headlines with summaries of
14 the respective materials. The user is allowed to view or listen to the headlines and summaries in
15 order to choose any document he is interested in. By selecting one of the headlines, the user is
16 given access to the original source of the information. Concurrently, notice of the material so
17 collected will be sent to the publisher's server in order to maintain overall statistics to be used in
18 generating the next issue of the personalized information.

19 If the owner of the publication has full rights to the information it supplies then each issue
20 of the publication will be represented by a set of headlines with summaries of the materials and
21 will also include full versions of all materials in the issue. For publications of the nature of text
22 or audio documents, the user may also receive, at a special request, a formatted copy of the
23 current issue in order, for instance, to print it out or send it by fax.

1 Work with any received issue of the personalized information will be implemented by
2 viewing or listening to the table of contents with summaries and selecting the materials of
3 interest. In this case, the user will be granted direct access to any selected material without
4 referring to any outside information sources, and notice of the material so collected will be sent
5 to the publisher's server in order to maintain overall statistics and making, on their basis,
6 decisions as to the field of interest and preferences of that specific user. In addition, the user is
7 able to send to the publisher's server his response concerning the quality of the materials
8 published and their conformity with his field of interest.

9 All materials of an issue will be readily accessible through the table of contents and
10 require no further reference to any outside information sources. For text forms of personalized
11 information, in particular, a thorough browsing of materials is possible by smooth scrolling on a
12 monitor display. The first page bearing the title of the publication could contain an editor's article
13 on a specific topic and summaries of the materials most interesting to the specific user. For audio
14 and video publications, both continuous consecutive playback of materials and immediate direct
15 access to the required document are allowable.

16 The printout function offers both formatted printout of the entire issue and printing of a
17 certain subset of the materials it contains. The elementary case is the printout of a current article
18 from text-formatted items or a current sound file from an audio-formatted items. In addition, a
19 current item of an issue may be sent by mail to any network user, including Internet users,
20 without any restriction.

21 Furthermore, the system's users can be given an opportunity to work interactively with
22 materials of their personalized information, including the creation of individual collections of
23 information materials from various issues, establishment of personal information archives,
24 addition of their own comments on materials, placement of bookmarks in selected places in

1 issues indicating a time to refer to them in the future or activating upon the occurrence of a user-
2 defined event, addition of new materials to the current issue of the personalized information, etc.
3 Individual collections of information items and personal information archives should be
4 organized as plurality of sections associated with various fields of user's interests or with one of
5 his projects. All these opportunities will make working with the materials of the personalized
6 information largely similar to the functions of a personal organizer.

7 Refinement of User Profiles

8 Another aspect of the invention involves the refinement of user profiles. The preparation
9 of issues of personalized information reflecting field of interests, preferences and psychological
10 types of the users is based on user profiles. The quality of this profile influences how
11 personalized a publication is. Some primary ways of generating and refining user profiles are
12 contemplated by this invention

13 Originally, a user profile is created for each user and/or group of users of the personalized
14 information during their registration. The original generation of the profile can be carried out in
15 the following different ways.

16 The simplest way to create a user profile for a user of personalized information is to
17 select some topical fields from a predefined set of topics. This way is easily implemented, but its
18 essential disadvantage is a rather rough reflection of interests of the user if a depth of the tree of
19 available topical fields is not large enough. The use of very deep and detailed classifiers makes it
20 difficult for user to select topics in a proper way, and, moreover, can restrict further refinement of
21 the user profile because of its narrow initial trend.

22 The other major factor that influences creation of the original user profile, is when a user
23 subscribes to a specialized issue of personalized information. The topical fields offered to the
24 user reflect the main topical orientation of the specialized personalized information. This allows

fixing topical fields more closely to the topical interests of the user even if the depth of the tree of available topical fields is very restricted.

The most progressive way to create a user profile is based on use of user profiles of other users or some parts of those profiles. This way has almost no disadvantages, because for a large number of users of personalized information, it is not too difficult to import already generated profiles that reflect someone's field of interests in a proper way. An additional possibility of combining several profiles allows a user to reflect many fields of interests very closely. One possible problem of this approach is with privacy considerations, i.e., that user's profiles are confidential and their disclosure and use should not be allowed without permission.

In addition to the topical interests and preferences, user's psychological type may be evaluated and reflected in the user profile or separate psychological profile. Psychological type of each user may be taken in consideration during personalized information generation and delivering.

Refinement of earlier generated user profiles can also be carried out in several other ways. This depends, in particular, on user's experience and his ability to estimate a quality of information materials.

First of all, a very strong influence on a user profile of a user or group of users is rendered by a choice of specific materials in previous issues of personalized information. Together with a user's subjective responses reflecting the quality of items, this method forms a basis for generation and improvement of the profile.

However this method is difficult when a user works with topics which are new. Indeed, when starting his work with some new topical fields, the user may not be able to properly evaluate the quality of materials offered to him. Sometimes it is rather difficult to determine which items to view, let alone respond to. In this case, the better results can be achieved with help from specialists or experts in the given topical field. To refine a user profile, the user can

1 select some topical fields and, if necessary, choose a known, trusted expert to evaluate them. This
2 choice can be fixed in the user profile of the user or group of users, and all the items
3 recommended by these experts will be included into forthcoming issues of personalized
4 information. After becoming familiar with a topic, the user can then start making their own
5 evaluations.

6 A similar result can be achieved if the user selects some specific sources of information
7 for his personalized information to which he trusts in more for any reason. This choice can also
8 be fixed in the user profile and used during generation of the forthcoming issues of personalized
9 information.

10 Similar methods can also be used for refining group profiles composed of two or more
11 user profiles. Responses can be collected for the group and for the individuals in the group.
12 The improved group profile is useful for such things as customizing information for a family or a
13 particular work group in a single information channel.

14 Information Filtering

15 Since publishers of the present invention will have to deal with an enormous number of
16 information items or documents, filtering of information is another aspect of the invention.
17 The problem of information redundancy will increase as the database grows. A primary task here
18 is to release the person from information that is excessive and useless by allocating only the most
19 essential pieces of knowledge.

20 Personalized information generated in accordance with user's fields of interest and
21 preferences are only the first step in solution of a problem of information redundancy. Further
22 steps should be taken in a direction of dynamic size regulation of particular information
23 materials. This goal could be achieved by the design and implementation of information filters.

24 The main purpose of an information filter is a dynamic change in the size of text

documents so that users are only given the amount of information they need. Passing through a filter, the document decreases in size in such a way and degree as predefined by the filtering method and parameters setting. As a result, the source text may lose many of its details, but remains integral and coherent. It goes without saying that filtered text should preserve the basic content of the source document.

Generally, there are two approaches to information filtering using two kinds of information filters.

The first type of filter is used to decrease the size of the source document up to the specific value, but preserve general content of the document as close as possible. Synopsis generation for papers and other documents is an example of this kind of filtering.

The second approach to information filtering deals with searching for some information related to the specific topical fields in the given document. Searching for some information in accordance with user profiles and preferences of users of personalized information is an example of this approach. This could be done by excerpts.

The synopsis generation, as a special kind of information filtering, is an example of information compression of source text up to an extreme small size when a general content of the source document is still preserved. It is important that text of synopsis could not be found by simple removing of some words and sentences from original document. It should be completely generated by filtering algorithm on the basis of semantic analysis of the source document.

The task of information selection in accordance with given user profile is a quite different kind of information filtering. Here it is not necessary to preserve a content of the source document. On the contrary, it is necessary to save only that part of text that is related to the topical fields designated within user profile. Everything that has not related to specific topical fields should be discarded completely. If the size of the filtered document still exceeds demanded

size, the first kind of filtering should be applied to that document.

The operation of an information filter is determined by its type and controlled by predefined set of parameters. As follows from the preceding analysis, the choice of parameters for filter of given type may influence the results of filtering by one of the following ways. First of all, they can restrict the maximum size of the final document. Then the information filter reduces the size of the source document up to the specific value preserving its general content and integrity as close to original one as possible. In order to archive such a result more than one pass through original text may be required.

On the other hand, the parameters of an information filter could determine the information trend of the final document under condition that the required information is really present at the source document. In the simplest case, the size of the final document is not restricted. If, however, it has to be restricted, both kinds of filters should be used simultaneously.

Topical Trends Prediction

One of the problems that a publisher of personalized information has to solve is evaluation of the topical trends and predicting of user's future interests. Such evaluation may be done by analyzing of evolution of topical interests of personal information subscribers during any period of time. Knowing which of topical trends will be of a greatest interest in the future allows the publisher to search ahead of time for new information sources reflecting those topical fields most completely and competently, and make advanced orders to independent authors for some topical materials.

of times each word or word collocation appears in earlier collected materials is specified as a distance from the origin of coordinate system measured along the corresponding coordinate axis. It is obvious that, at any moment of time, one, and only one, point of the coordinate space corresponds to each subscriber of personalized information. This correspondence, in one sense, characterizes the topical interests of subscribers. A natural limitation of this approach to information space organization is that it is not applicable to analyze non-textual, e.g., video, information materials.

Appropriate topical classification allows establishment of one-to-one correspondence between points of both types of information space. Therefore, they can be considered as identical.

Independently, with construction of an information space, an evolution of a subscriber's topical interests during any period of time may be represented by a trajectory in this space. If a subscriber's topical interests were fixed only at some discrete moments, an analytical equation of trajectory may be found by interpolation of discrete values in given information space. Then an information vector may be defined as a vector tangent to this trajectory in each its point. This vector characterizes a direction in which a subscriber's topical interests are changing. The length of information vector may be defined as derivative of the trajectory function at a given point. It characterizes how fast a subscriber's topical interests are changing at a specific moment of time.

In order to predict new topical interests of a subscriber, it is sufficient to extrapolate the trajectory of his topical interests outside that period of time where investigation has been carried out. The precision of a prediction depends on the quality of the fixing of topical interests at an arbitrary moment of time (error of method) and on the selected method of approximation of the discrete set of points by a continuous function (error of approximation).

The evolution of group interests of any number of subscribers of personalized information may be reflected by one of the two methods. First of all, it is possible to carry out a

1 cumulative analysis of interests of all members of the group (for example, on the basis of total
2 number of information materials in various topical fields applied by all members of the group, or
3 by evaluating of frequency with which some words or word collocations appeared in all
4 information materials collected by all members of the group) and representing the result by a
5 single point in the information space. Then the problem of prediction of topical fields for any
6 group of users or all the subscribers of personalized information becomes identical to that for
7 individual subscribers. Result achieved in such a way will be essentially of an integral character.

8 More precise estimation of the evolution of group interests may be found by analyzing the
9 total number of individual trajectories for all subscribers of personalized information or members
10 of any group. In this case of the prediction of topical interests, a cumulative investigation of all
11 information vectors is required for each moment of time. The most prospective direction of
12 evolution of the group interests will be in the neighborhood where the dominant number of
13 information vectors is grouped. The lack of such direction points out incompatibility of
14 individual members of the group in a sense of their topical interests.

15 Basic System Architecture

16 A basic embodiment of the present invention is illustrated in **Figure 1**. A publisher **101**
17 collects information items **103a** from licensed commercial sources **102a**, free sources **102b**,
18 independent authors **102c** and other **102d** for storage on a database **103**. Users **106** register with
19 the publisher **101** to receive personalized information **103c** and submit a user profile **103b**. The
20 user **106** receives personalized information **103c** comprising a collection of the information items
21 **103a** based, at least in part, on the user's user profile **103b**. The user **106** can register directly
22 with the publisher **101** or indirectly with distributor **105** who is allowed to choose a certain
23 percentage of the information items **103a** to be included in the user's personalized information
24 **103c**.

1 Users **106** send subjective responses to the publisher **101** or the distributor **105**. These
2 responses are used to refine the user's profile **103b** and can be additionally subject to independent
3 analysis for further use, such as for marketing or public opinion tracking. Publisher **101** can also
4 analyze the responses to identify areas where further information items **103a** need to be collected.
5 **Figure 2** represents a block diagram showing the structure of the system, message flows and the
6 functional interface between the system's individual components.

7 An exemplary system for generating personalized information and delivering issues to
8 users includes the following server components for the preparation and distribution. The
9 publisher's main server **201** is intended to analyze user preferences and perform the main
10 functions associated with the generation of issues based on individual statistics of user-collected
11 materials which reflect the user's field of interest, generally referred to as user profiles. The
12 publisher's communication server **202** is intended to process user requests and deliver current
13 issues of personalized information.

14 The server **203** of an independent distributing company, hereinafter "distributor", registers
15 users and provides its subscribers with a specialized issue, preferably incorporating those
16 materials which fall within the independent distributor's field of interest.

17 A publisher's search engine **204** is used to search for new information items within a
18 predefined set of authorized sources, including news, topical and other Internet sites. An author's
19 server **205** allows independent authors and distributors of specialized publications to supply their
20 materials to the publisher's server **201**. A central database **206** is intended to store prepared issues
21 of personalized information and selected new materials. A search database **207** is intended for
22 temporary storage of information items retrieved from various information sources or received
23 via the author's server **205** from independent authors.

24 The system for generation and delivery of issues contains auxiliary workstations to be

used to prepare authors' materials, edit and select documents received from various information sources and from independent authors and to generate specialized issues of personalized information. A distributor's workstation **208**, with appropriate software, is intended to identify the topical fields for their specialized issues of personalized information, prepare topical and advertising materials, set up the parameters of the publication and collect statistical data on the work of the users. An author's workstation **209**, with appropriate software, allows the independent author to supply his information items to the system and to track statistics of their use. The information editor's workstation **210**, with appropriate software, is intended for preliminary processing, evaluation and classification of information items received from various information sources. The authored material editor's workstation **211**, with appropriate software, is intended for preliminary processing and evaluation of information items supplied by independent authors. The workstations **212** of the system's users, with appropriate software, allow the user to work with personalized information, and also is used for registration and user profile setup.

The system works as follows. A user of the system can, using appropriate software, receive one or more sets of personalized information and work with them. In order to subscribe to receive personalized information issues, the user should contact the site of the publisher or one of the independent distributors, obtain the identifier of the publication, contact the publisher's communication server **202** or server **203** of one of the independent distributors and register himself as subscriber.

In order to begin the process and to generate a first issue, the user may select, out of the set offered to him, the topical fields most corresponding to the user's field of interest in order to setup of the system's main parameters in the form of a user profile. One of the most important parameters determines the mode of delivery to the user of issues of the personalized information:

1 in a formalized manner to the same address. Based on these responses sent by each user, the
2 publisher's main server **201** adjusts that user's current user profile.

3 The publisher's search engine **204** tracks the appearance of new materials within a
4 predefined set of authorized information sources and places any materials found in the search
5 database **207**. The set of information sources to be used to search for information items (e.g.
6 news and topical Internet sites) will be determined by the search engine's setup. Specific data on
7 the information source for each material will also be stored in the search database **207**.

8 The editor at his workstation **210** performs preliminary processing of information items
9 from the search database **207** (general assessment of usability in issues of the personalized
10 information, elementary editing, such as advertisement removal, indexing and classification into
11 topical fields, etc.). Any items accepted will be forwarded to the publisher's central database **206**
12 for further utilization in generating new issues of the personalized information.

13 Independent authors from their workstations **209** deliver information items they have
14 prepared to the author's server **205**. The author's server **205** places the items so received in the
15 search database **207**. The software of each author's workstation **209** also allows him to monitor
16 statistical data on the use of his information items in the issues of the personalized information.
17 The authored material editor, at his workstation **211**, performs preliminary processing of authors'
18 items from the search database **207** (general assessment of usability in issues of the personalized
19 information, indexing and classification into topical fields, etc.). Any materials accepted will be
20 forwarded to the publisher's central database **206** for further utilization in generating new issues
21 of the personalized information.

22 An independent distributor of personalized information registers his specialized
23 information publication using the software installed in his workstation **208** via the publisher's
24 communication server **202** and receives in response a unique identifier of the specialized

1 upon request, according to a schedule, upon accumulation of a user-defined amount of materials
2 or upon the occurrence of a certain other event. The topical fields and setup options selected by
3 the user will be forwarded to the publisher's main server **201** via the communication server **202**
4 or the server **203** of an independent distributor.

5 In order to retrieve the current issue of the personalized information, the software of the
6 user's workstation **212** should apply to the publisher's communication server **202** directly or via
7 the server **203** of an independent distributor.

8 The request for the current issue of the personalized information goes from the user's
9 workstation **212** to the communication server **202**. Once the user's request is received, the
10 communication server **202** will check whether the central database **206** contains any current issue
11 for this user. If there is no such issue, the communication server **202** will request the main server
12 **201** to generate it. The newly generated issue will come to the central database **206** and then, via
13 the communication server **202**, will be dispatched to the user **212** directly or via a distributor's
14 server **203**.

15 The publisher's main server **201** generates a new issue of the personalized information
16 personally for each user or group of users on the basis of the individual or group user profile kept
17 in the central database **206**, taking into account the individual user setup and the publication's
18 overall setup. To generate the issue, the information items available in the publisher's central
19 database **206** will be used.

20 Each new issue of the personalized information will be delivered to the user's workstation
21 **212** directly via the publisher's communication server **202** or via a distributor's server **203**.

22 Subjective responses to the current issue's content made by the user can be automatically
23 dispatched by the software of the user's workstation **212** to the communication server **202** and
24 forwarded to the publisher's main server **201**. User responses to any items provided will be sent

publication so registered. After registration he will send to the communication server **202** a general set of the specialized publication's parameters (title, topical fields etc.) which will be stored in the publisher's central database **206**. In response, the registered independent distributor will receive from the communication server **202** a software code fragment which should be installed in his server **203** in order to serve the users of the personalized information who have subscribed to the specialized publication through the server **203** of the said distributor.

From his workstation **208**, an independent distributor of the personalized information can send to the author's server **205** topical and advertising materials which will be included in issues of the specialized publication on a priority basis, generally as a certain percentage of the content.

The specialized software of the user's workstation **212** will perform three main functions: send requests for the registration of system users to the communication server **202** or the server **203** of an independent distributor, support setup of basic working parameters to make user profiles and enable users to work with each current issue of the personalized information furnished to them.

Multilevel System Architecture

A multilevel embodiment of the present invention is illustrated in **Figure 3**. This embodiment is an extended and more powerful version of this invention for regular delivery to users of personalized information. It is intended for generation and delivery to users of general purpose and specialized personalized information in maximum conformity to profiles based on users fields of interests, individual preferences and psychological type. In general, it works in a manner similar to a single publisher embodiment of this invention, but has a number of new features ensuring enhanced selectivity, customization, flexibility, and reliability of delivery.

The principal role in organization of a multilevel information system is played by its primary publisher **301**. This entity is responsible for publication in general. But now its main

1 function consists not only in generation of issues of personalized information, but also the
2 creation and support of a wide web of the distributors, named further as secondary publishers
3 **303**. In this embodiment, secondary publishers **303** are organized in a multilevel hierarchical
4 structure and play a more active role in preparation and distribution of issues of personalized
5 information. The user **304** is allowed to subscribe for personalized information through
6 publishers at any level, including the primary publisher **301**.

7 The primary publisher **301** is on the top of the hierarchy and receives information items
8 from a predefined set of authorized information sources **302**, such as licensed commercial
9 sources like news agencies, free sources such as government publications, and from the
10 independent authors who prepare information items directly for given issues. The access to these
11 sources **302** is carried out through the search and author's servers of the primary publisher **301**.
12 All newly retrieved information items are evaluated for usability in future issues of personalized
13 information, preliminarily indexed and classified into topical fields, and transferred to the
14 publisher's central database. After that, the selected items may be used immediately by primary
15 publisher **301** for the generation of issues for his subscribers, and also be transferred to lower
16 level secondary publishers **303** for generation of their own personalized information. The primary
17 publisher **301** is responsible for all publications released by lower level secondary publishers **303**
18 and also for information items submitted to them.

19 The personalized information generated by the primary publisher **301** is usually of the
20 most general character and is not concerned with specific topical fields. The centralized search
21 for information materials by the primary publisher **301** allows releasing secondary publishers **303**
22 from the lease of expensive dedicated information channels and does not require them to use
23 powerful computers for search, indexing and classification of an information. If necessary,
24 secondary publishers **303** are allowed to order the primary publisher **301** to search for

1 information items on concrete topical fields. As a result, a central information database is created
2 on the primary publisher's server. This database is updated continuously and used to generate
3 issues of personalized information by publishers of various levels. Secondary publishers **303** are
4 also able to transfer their information items into the database of primary publisher **301**.

5 Secondary publishers **303** either assist primary publisher **301** in generation and
6 distribution of issues of personalized information released by him, or generate their own issues of
7 personalized information. The latter may be general purpose publications like those of the
8 primary publisher **301**, but differ from it by using a different approach to information selection
9 and feedback collection with personalized information's users. However, they may offer to their
10 subscribers some specialized issues of personalized information reflecting, in particular, their
11 own topical interests. This is achieved by establishing a number of topical sections reflecting a
12 structure of a specialized publication. So, for instance, a car showroom owner could become a
13 publisher or distributor of a specialized publication devoted to automobile issues, and its
14 subscribers would receive the most complete information on this specific topic. The lower the
15 secondary publisher **303** is in the multilevel hierarchy, the more specialized the issue of
16 personalized information it generates for its subscribers. The issues of specialized personalized
17 information are prepared by the primary publisher **301** by the order from one of the secondary
18 publishers **303** or directly by the secondary publisher **303** using information items available to it.

19 All the information items needed by secondary publishers **303** are received either from
20 higher level publishers or from their own information sources. These sources may be both
21 various information channels and independent authors who prepare items by the order of the
22 secondary publisher **303**. The items produced by the authors may be of a very specialized
23 character, reflecting the field of interest of the publisher. The items received from higher level
24 secondary publishers **303** may, if necessary, be preliminary indexed and classified into topical

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1 fields and are transferred together with corresponding classification tables. In order to collect
2 some additional information items and collaborate with the independent authors, the secondary
3 publisher **303** should have his own search and author's servers.

4 On demand of the primary publisher **301** or one of the higher level secondary publishers
5 **303**, all the information items retrieved by secondary publishers **303** can be sent to higher levels
6 for evaluation of their quality and usability for issues of general and specialized publications.
7 Thereby, the primary publisher **301** gains an opportunity to inspect all the issues of personalized
8 information of various levels. Moreover, the information items of secondary publishers **303** may
9 be transferred into central database of primary publisher **301** enlarging common information
10 fund.

11 Secondary publishers **303** may require the primary publisher **301** or any other higher level
12 secondary publisher to transfer to him only completely generated issues of personalized
13 information and not have any additional sources of information. In this case such secondary
14 publishers **303** would look quite similar to the independent distributors mentioned earlier. The
15 only difference is the hierarchical structure of publishers and distributors, which now will
16 provide users more specialized personalized information.

17 Independent authors can prepare information items by either proceeding from their own
18 fields of interest, or by the direct order from one of the publishers. All authors' items can be
19 stored in a local data base of the secondary publisher **303** to which they were given. Publishers of
20 any level of hierarchy may transfer their own authors' and other items to a central data base of the
21 primary publisher **301** for consequent use in the issues of personalized information by other
22 publishers. Likewise, the direct exchange by any information items between publishers of the
23 same or different hierarchical levels, without their preservation in a data base of the primary
24 publisher **301**, is allowed.

1 Anyone who has access to the information server of the primary publisher **301** or one of
2 the secondary publishers **303** over the Internet or via any other communication channel or
3 connection may subscribe to an issue of personalized information. To this end, it is enough for
4 the user to register on the server of the primary or one of the secondary publishers **303**, indicating
5 an initial field of interest and carrying out some additional setup in order to define the method for
6 delivery of the issue, the volume of each issue, etc., in the form of a user profile. Registration
7 through a secondary publisher's server enables the prospective user to receive a specialized issue
8 preferably including text, audio and video items on a certain topic, which reflects the field of
9 interest of the secondary publisher.

10 In order to adapt new issues of personalized information as much as possible to the
11 interests and preferences of the users, a user profile will be generated on the primary or
12 secondary publisher's server for each registered user or group of users. Initially, such a profile
13 may be defined by the topical sections selected by the user and by the core topic of the
14 specialized publication. It will further be adjusted, first, on the basis of a review of processed
15 data on the items previously collected by the user and, second, on the basis of a review of any
16 responses received from the user concerning the quality of the items and their conformity with
17 the field of his interest. This establishes a dynamic feedback of the personalized information's
18 users directly to its publisher. For the users forming a group according to their interests, their
19 common profile will be generated as a group profile, subject to adjustment through analyzing the
20 topics of the items collected by all members of the group and any responses received from them.

21 The user profiles of all the users registered through servers of secondary publishers **303**,
22 are automatically forwarded to the information server of the primary publisher **301** and are stored
23 in the central data base. They are used by the primary publisher's server for selection of
24 information items that match the profile of the users. The selected items are transferred to the

1 information server of the secondary publisher together with the corresponding classification
2 tables.

3 In order to predict the most important topical trends, the primary or secondary publishers
4 generate information vectors via a user's user profile. This is done by having user profiles include
5 a set of N topical fields of interest and assigning a significance magnitude for each topical field
6 to create an N -dimensional information space. Means are then employed to analyze user
7 responses to update the significance magnitude for each topical field. A trajectory in said
8 information space is interpolated based on the updated significance magnitudes and an
9 information vector is defined as a vector tangent to said trajectory with a magnitude defined as
10 the derivative of the trajectory function at a given point to characterize how fast and in what
11 direction a user profile is changing. These information vectors can then be used to assist in
12 directing collection information items.

13 Any information vector reflects the evolution of topical interests and preferences of the
14 user, group of users or all subscribers of personalized information during any period of time. Its
15 direction in information space determines those topical fields, which will be of a greatest interest
16 in the nearest future. Analyzing a set of information vectors for all subscribers of personalized
17 information, it is possible to forecast some general tendencies of what information items should
18 be collected.

19 A user's response to each specific item published in any issue of the personalized
20 information will be forwarded to the publisher's server, either as an evaluation of the quality of
21 the information material and its conformity with the user's field of interest, or in the form of
22 comments. Quality may be evaluated using a certain conventional scale in points or in a similar
23 manner, e.g. by appropriate positioning of the marker on the display of the user terminal.
24 Comments are represented by ordinary text expressing the user's detailed attitude towards the

material supplied. Either way, the user's response should be transmitted to the publisher's server in a formalized manner suitable for automatic computer processing. The user's response can be entered and transmitted to the publisher's server using a scanning device.

The responses of the users registered through the server of one of the secondary publishers **303**, are either treated immediately by the server of this secondary publisher without forwarding them to the server of the primary publisher **301**, or directed to the server of the primary publisher **301**. In the former case, the server of the primary publisher **301** indirectly knows about user's responses to published items analyzing user profiles of the users. Each secondary publisher may introduce his own method for users' responses processing. If the responses are carried out on the server of the primary publisher **301**, then, together with user's responses, the secondary publisher should direct to the primary publisher's server appropriate procedures for their processing.

Users' responses to published items are useful not only for refining user profiles, but may also be used independently for other specialized reasons. It is likely, for example, that if the information items have some specialized trend, the responses to them could be considered as marketing research or public opinion data. In this case, the responses collected in an appropriate way may be offered to some interested persons or companies on various terms for independent analysis.

The delivery to the user of the next issue of personalized information is carried out through the server of secondary publisher or distributor, which has registered the given user. Through the communication server of the primary publisher **301**, the issues of personalized information are delivered only to those users who were registered immediately through the server of the primary publisher **301**. The communication server of the primary publisher **301** serves all lower level secondary publishers **303**. If desired, the issues of personalized information generated

by any level secondary publisher could be transferred into the central data base of the primary publisher **301**. Otherwise they can be stored in a local data base of the secondary publisher. In order to receive the next issue of publication, the user should first contact the server of his publisher or distributor indicating his individual password or identifier. One of the available delivery options should be selected by the user as part of the system's setup. The simplest of them is delivery at the user's direct request sent to the publisher's or distributor's server. Another basic option is delivery of current issues according to a user-defined schedule. More complicated options require a user to specify an event upon the occurrence of which a new issue should be delivered to the user. An example of such an event is the accumulation of a user-defined amount of unpublished information items, which should be enough to generate a new issue. The user **304** can also authorize a selected third party to determine delivery parameters.

Logical Organization of Personalized Information

A logical model of the personalized information is established by a primary or secondary publisher and determines internal rules, algorithms, interconnections, list of services, methods of settlements, and etc. Examples of logical models are:

- methods for users' responses processing;
- interfaces of user workplaces and interactive tools;
- algorithms for taking into account individual user profiles during generation of information publication for common use; and
- algorithms for prediction of necessities of users of information publication in goods and services through analysis of users' responses.

Primary publishers may establish some restrictions on the possibility of secondary publishers to introduce their own logical models of personal information. In turn, secondary publishers can

1 establish some restrictions for secondary publishers of lower levels of hierarchy.

2 Logical models of personalized information are developed by publishers themselves or
3 provided to primary or secondary publishers by some independent suppliers such as independent
4 specialists or companies in replay to specific request. Any logical model of personalized
5 information developed or acquired by primary or secondary publisher may be forwarded to
6 another primary or secondary publisher. Publishers of any level of hierarchy are allowed to
7 operate with logical models in a quite similar manner as done with information items.

8 Exemplary Uses and Embodiments

9 An exemplary application of the present invention is as a personalized newspaper that can
10 be delivered in a variety of electronic formats. In one embodiment, a publisher maintains a
11 database of articles collected from licensed commercial information sources (i.e. Associated
12 Press, Reuters, etc.), free information sources (i.e. non-copyrightable U.S. Government
13 information), and articles submitted by independent authors. Articles are indexed (i.e. subject,
14 category, subcategory, etc) automatically and/or by humans.

15 Users register to receive personalized newspaper and submit a user profile. Although
16 registration can be done directly with publisher, usually for some form of remuneration, a user
17 can also register, usually for free, via a secondary publisher or distributor who has a relationship
18 with the publisher. Directly registered users receive newspapers with any chosen percentage of
19 the articles based on their user profile. Users registered through a secondary publisher or
20 distributor receive newspaper from that publisher or distributor with a percentage of the articles
21 and content (advertisements, coupons, etc.) chosen by the secondary publisher or distributor, and
22 the remaining percentage of the articles based on the user's user profile. Users can register
23 subjective responses about the articles with the publisher.

1 The newspaper can be delivered by the World Wide Web, E-mail, fax or hard copy in the
2 mail, and can be delivered in textual, audio (CD-R, MP3, etc.), and/or video (DVD, QuickTime,
3 etc.) formats. User responses to the articles can be returned in any of the delivery methods
4 (WWW, E-mail, fax, or mail).

5 In one aspect of the invention, hard copy response forms can be marked up by a user and
6 faxed to the publisher for graphical recognition by software. Such forms can also include a
7 section for composing E-mail messages that can be sent as text files based on handwriting
8 recognition or sent as graphical files.

9 Responses to the articles submitted to the publisher can be used for a variety of reasons
10 such as e-mail forwarding and giving the authors ratings. In certain situations, such as where the
11 secondary publisher or distributor is a corporation distributing personalized newspapers to their
12 employees, responses to a secondary publisher or distributor's newspaper can be collected by the
13 secondary publisher or distributor and the secondary publisher or distributor may choose which
14 responses, if any, get shared with the publisher.

15 Authors can receive royalty payments for each time their articles are used and can
16 respond to user requests or to general interests based on user responses.

17 In one aspect of this embodiment of the invention, users can download their newspaper
18 into personal organizers for future use.

19 In another aspect of this embodiment, a weekly digest can be sent to a user, preferably as
20 a DVD containing a half-hour to an hour of video highlights.

1 I CLAIM:

2 1. A method of delivering personalized information to users, comprising:

3 collecting information items by a publisher;

4 storing said information items on at least one publisher's database;

5 establishing a user profile for each user and storing said user profiles on the at least one
6 publisher's database;

7 periodically delivering a collection of information items to each user as personalized
8 information, wherein at least a portion of information items from said collection is chosen based
9 on each user's user profile;

10 collecting responses other than information item usage from said users related to said
11 personalized information; and

12 refining each user profile based, at least in part, on each user's responses.

13
14 2. The method of delivering personalized information to users of claim 1, wherein said
15 publisher collects information items from licensed commercial sources, free sources, and
16 independent authors.

17
18 3. The method of delivering personalized information to users of claim 1, wherein personal
19 topical interests, preferences and psychological-type of each user are fixed in each user's
20 user profile.

21
22 4. The method of delivering personalized information to users of claim 1, wherein said
23 personalized information is delivered by a channel selected from the group consisting of
24 Internet web pages, FTP downloads, e-mail, facsimile transmission, delivered paper

1 hardcopy, magnetic media, optical media, broadcast TV, and radio.

2
3 5. The method of delivering personalized information to users of claim 1, wherein said
4 responses are collected by a channel selected from the group consisting of Internet web
5 pages, e-mail, facsimile transmission, delivered paper hardcopy, and voice mail.

6
7 6. The method of delivering personalized information to users of claim 2, wherein said
8 collected information items are indexed and classified into topical fields.

9
10 7. The method of delivering personalized information to users of claim 2, wherein said
11 information items are filtered to release a user from information which is excessive or
12 useless, by allocating only the most essential pieces of knowledge or information.

13
14 8. The method of delivering personalized information to users of claim 7, wherein a filtering
15 algorithm reduces a size of an information item to a specific value while preserving
16 general content of said information item as close as possible.

17
18 9. The method of delivering personalized information to users of claim 8, wherein a
19 synopsis is generated for an information item on the basis of semantic analysis of said
20 information item.

21
22 10. The method of delivering personalized information to users of claim 7, wherein a filtering
23 algorithm reduces a size of an information item by preserving only a part of said
24 information item related to a topical field designated in user's user profile.

- 1
- 2 11. The method of delivering personalized information to users of claim 1, wherein a portion
3 of information items from said collection is chosen by at least one secondary publisher.
4
- 5 12. The method of delivering personalized information to users of claim 11, wherein said
6 secondary publisher produces secondary information items and said secondary
7 information items are collected and stored on said publisher database.
8
- 9 13. The method of delivering personalized information to users of claim 11, wherein said
10 responses are collected by said secondary publisher.
11
- 12 14. The method of delivering personalized information to users of claim 13, wherein said
13 secondary publisher controls release of collected responses to said publisher.
14
- 15 15. The method of delivering personalized information to users of claim 13, wherein said
16 secondary publisher analyzes said responses to create information in a form usable by
17 said publisher, said secondary publisher, or another secondary publisher.
18
- 19 16. The method of delivering personalized information to users of claim 2, wherein
20 independent authors supply specific information items to a publisher or secondary
21 publisher proceeding from their own topical interests.
22
- 23 17. The method of delivering personalized information to users of claim 2, wherein
24 independent authors supply specific information items to a publisher or secondary

1 publisher in reply to requests for specific information.

2
3 18. The method of delivering personalized information to users of claim 17, wherein a
4 publisher of personalized information requests information items from independent
5 authors based on said publication's topical interests, topical field of distributed
6 personalized information, and topical interests of users of personalized information.

7
8 19. The method of delivering personalized information to users of claim 2, wherein said
9 independent authors produce specific information items in response to general interests
10 revealed by said responses.

11
12 20. The method of delivering personalized information to users of claim 16, 17 or 19,
13 wherein user responses to said specific information items are used to rate, compensate, or
14 rate and compensate said independent authors.

15
16 21. The method of delivering personalized information to users of claim 2, wherein said
17 independent authors are paid royalties each time one of their information items is
18 included in a user's personal information.

19
20 22. The method of delivering personalized information to users of claim 2, wherein said
21 independent authors are paid royalties for submitted information items independently on
22 how many times said information items are actually included in a user's personal
23 information.
24

1 23. The method of delivering personalized information to users of claim 1, wherein a user
2 registers to receive said personal information with a publisher or secondary publisher.
3

4 24. The method of delivering personalized information to users of claim 23, wherein said
5 user registers to receive said personal information by filling in a standard form.
6

7 25. The method of delivering personalized information to users of claim 23, wherein said
8 user chooses at least one personal information collection from a plurality of information
9 collections released by said publisher.
10

11 26. The method of delivering personalized information to users of claim 23, wherein said
12 user supplies an initial field of topical interest or an initial user profile.
13

14 27. The method of delivering personalized information to users of claim 26, wherein said
15 user supplies an initial field of topical interest by selecting some topical sections from a
16 given predefined set.
17

18 28. The method of delivering personalized information to users of claim 26, wherein said
19 user supplies an initial field of topical interest by a method chosen from the group
20 consisting of: choosing a user profile of one of the earlier registered users of said
21 personal information, combining user profiles of any number of early registered users,
22 specifying a user profile generated by a publisher of said personal information, and
23 combinations of any one of these methods with the additional selection of some topical
24 sections from a given predefined set

- 1
- 2 29. The method of delivering personalized information to users of claim 26, wherein said
- 3 user supplies an initial field of topical interest referencing to well-known information
- 4 sources or information publications.
- 5
- 6 30. The method of delivering personalized information to users of claim 23, wherein a user's
- 7 psychological-type is evaluated by applying a psychological tests for input into said user's
- 8 user profile.
- 9
- 10 31. The method of delivering personalized information to users of claim 23, wherein each
- 11 user chooses a condition determinative of a periodic delivery of said personal
- 12 information.
- 13
- 14 32. The method of delivering personalized information to users of claim 31, wherein a
- 15 condition determinative of said periodic delivery of said personal information is selected
- 16 from the group consisting of a user's request for specific information, a user-defined
- 17 schedule, and a specific event chosen by a user.
- 18
- 19 33. The method of delivering personalized information to users of claim 32, wherein a
- 20 specific event is an accumulation of a user-defined amount of undelivered information
- 21 items.
- 22
- 23 34. The method of delivering personalized information to users of claim 31, wherein said
- 24 condition determinative of said periodic delivery of said personal information is a specific

1 event and the only information item delivered is related to said specific event.

2
3 35. The method of delivering personalized information to users of claim 31, wherein said
4 condition determinative of said periodic delivery of said personal information is specified
5 by a user or by a third party appointed by said user.

6
7 36. The method of delivering personalized information to users of claim 23, wherein user's
8 user profile is created during registration.

9
10 37. The method of delivering personalized information to users of claim 36, wherein at least
11 a portion of information submitted during registration, including a user's field of interest,
12 is stored in said user's user profile.

13
14 38. The method of delivering personalized information to users of claim 23, wherein a user is
15 provided with unique password or identifier which is used to access collections of
16 information items.

17
18 39. The method of delivering personalized information to users of claim 1, wherein a person
19 learns about an existence of said personalized information through advertisements or
20 advertising collections of information items distributed by a publisher via generally
21 available printed and electronic media.

22
23 40. The method of delivering personalized information to users of claim 39, wherein said
24 advertising collections of information items are generated on the basis of most common

1 topical interests of registered users of said personal information.

2
3 41. The method of delivering personalized information to users of claim 39, wherein some
4 collections of information items generated for users of said personal information are used
5 as advertisements.

6
7 42. The method of delivering personalized information to users of claim 39, wherein
8 advertising collections of information items are periodically updated.

9
10 43. The method of delivering personalized information to users of claim 1, wherein said
11 responses from users are selected from the group consisting of subjective views on said
12 information items, user requests, inquiry responses, and formalized user statements.

13
14 44. The method of delivering personalized information to users of claim 43, wherein said
15 subjective views on said information items are expressed in a form selected from the
16 group consisting of evaluation of quality using a scale, expression of user's opinion about
17 information items, and comments to submitted information items.

18
19 45. The method of delivering personalized information to users of claim 1, wherein collecting
20 responses includes users marking paper hardcopy response forms and machine-reading
21 the data from said forms.

22
23 46. The method of delivering personalized information to users of claim 45, wherein said
24 response forms are transmitted by facsimile and machine-reading is performed by

1 recognition software.

2
3 47. The method of delivering personalized information to users of claim 46, wherein
4 said response forms include a section for users to create e-mail;
5 users address and draft messages in said section;
6 users indicate whether to send said messages as text or graphics files;
7 said section is recognized as text or graphics by said recognition software; and
8 said message is sent, as addressed, in the indicated format.
9

10 48. The method of delivering personalized information to users of claim 43, wherein said
11 user request expresses a user's interest in receiving future information items related to a
12 present information item.
13

14 49. The method of delivering personalized information to users of claim 43, wherein said
15 user request expresses user's interest in receiving some additional information items
16 submitted by the same independent author.
17

18 50. The method of delivering personalized information to users of claim 43, wherein a user
19 request contains a priority assigned by said user to requested information items or topical
20 fields.
21

22 51. The method of delivering personalized information to users of claim 50, wherein
23 information items with higher priority are included into issues of personalized
24 information in the priority order.

- 1
- 2 52. The method of delivering personalized information to users of claim 50, wherein highest
- 3 priority is assigned to hot news or other urgent information items or topical fields.
- 4
- 5 53. The method of delivering personalized information to users of claim 52, wherein a user
- 6 orders additional comments to hot news or other urgent information items using a specific
- 7 request.
- 8
- 9 54. The method of delivering personalized information to users of claim 53, wherein a user
- 10 orders comments reflecting a desired point of view or submitted by an independent author
- 11 requested to by said user.
- 12
- 13 55. The method of delivering personalized information to users of claim 43, wherein a user
- 14 may delete topical sections from their user profile.
- 15
- 16 56. The method of delivering personalized information to users of claim 1, wherein each said
- 17 collection of information items, in addition to information items fitting the user's user
- 18 profile, includes some publisher's information items which are deemed to be most
- 19 important at the time of generation of said collection.
- 20
- 21 57. The method of delivering personalized information to users of claim 1, wherein a user
- 22 may export their user profile for use by another user.
- 23
- 24 58. The method of delivering personalized information to users of claim 57, wherein a user

1 may import a user profile for their use from another user.

2
3 59. The method of delivering personalized information to users of claim 1, wherein user
4 profiles are used for special reasons selected from the group consisting of marketing
5 research and interrogation of public opinion.

6
7 60. The method of delivering personalized information to users of claim 1, wherein access to
8 certain information items requires said user to provide a certain response.

9
10 61. The method of delivering personalized information to users of claim 60, wherein said
11 certain response is selected from the group consisting of authorizing payment, authorizing
12 release of user information, viewing advertisements, viewing and registering responses to
13 advertisements, viewing information, viewing and registering responses to information,
14 responding to a questionnaire, and responding to a poll.

15
16 62. The method of delivering personalized information to users of claim 1, wherein said
17 personalized information is delivered in a form suitable for providing personal organizer
18 functions to said user.

19
20 63. The method of delivering personalized information to users of claim 62, wherein a user
21 may create individual collections of information items from various issues of
22 personalized information, establishes personal information archives, add personal
23 comments on information items, place bookmarks in selected places indicating a time to
24 refer to them in the future or activating upon the occurrence of a user-defined event, and

1 add new information items to the current issue of personalized information.

2
3 64. The method of delivering personalized information to users of claim 63, wherein
4 individual collections of information items and personal information archives are
5 organized as a plurality of sections associated with various fields of interest of said user
6 or with one of user's projects.

7
8 65. The method of delivering personalized information to users of claim 1, wherein said
9 personalized information is delivered in an electronic form provided with interactive tools
10 comprising of navigating tools, archiving tools, annotating tools, calendar tools, printing
11 tools, and communication tools.

12
13 66. The method of delivering personalized information to users of claim 1, wherein a logical
14 model of personal information is established by said publisher comprising:
15 methods for users' responses analysis;
16 interfaces of users' workplaces;
17 algorithms for taking into account users' profiles during generation of collections of
18 information items for common use; and
19 algorithms for prediction of necessities of users of personal information in goods and
20 services through analysis of users' responses.

21
22 67. The method of delivering personalized information to users of claim 66, wherein logical
23 models of personal information are provided by independent suppliers on request of said
24 publisher.

1
2 68. The method of delivering personalized information to users of claim 1, including
3 organizing multiple levels of primary publishers and secondary publishers that distribute
4 each of said collecting, storing, delivering, and refining steps in a mutually agreed
5 manner, wherein publishers act as primary publishers when they perform the step of
6 collecting information items and act as secondary publishers when they rely on other
7 publishers to perform the step of collecting information items.

8
9 69. The method of delivering personalized information to users of claim 68, wherein said
10 multiple levels of primary publishers and secondary publishers are organized as a
11 multilevel hierarchical structure where the primary publisher is on the top of hierarchy
12 and is responsible for the content of all personal information.

13
14 70. The method of delivering personalized information to users of claim 68, wherein said
15 primary publisher collects information items from licensed commercial sources, free
16 sources, and independent authors.

17
18 71. The method of delivering personalized information to users of claim 70, wherein said
19 primary publisher stores said information items on at least one central database.

20
21 72. The method of delivering personalized information to users of claim 68, wherein said
22 primary publisher provides said secondary publishers with information items they need to
23 generate collections of information items.
24

1 73. The method of delivering personalized information to users of claim 68, wherein said
2 primary publisher is responsible for personal information released by said secondary
3 publishers and also for information items submitted to them.
4

5 74. The method of delivering personalized information to users of claim 68, wherein said
6 secondary publishers either assist said primary publisher in generation and distribution of
7 collections of information items or generate and distribute their own collections of
8 information items.

9 75. The method of delivering personalized information to users of claim 68, wherein said
10 collections of information items distributed by said secondary publishers differ from
11 collections distributed by said primary publisher in such a way that both primary and
12 secondary publishers use different approaches to information items selection and different
13 response collection techniques with personal information users.
14

15 76. The method of delivering personalized information to users of claim 68, wherein said
16 secondary publishers generate specialized collections of information items by including
17 into said collections some specific information items.
18

19 77. The method of delivering personalized information to users of claim 76, wherein topical
20 fields of said specialized collection of information items are determined by topical
21 interests of said secondary publisher and are established by fixing some topical sections.
22

23 78. The method of delivering personalized information to users of claim 68, wherein said
24 collections of information items distributed by said secondary publisher are generated by

1 said primary publisher on request of said secondary publisher or by said secondary
2 publisher himself using available information items.

3
4 79. The method of delivering personalized information to users of claim 74, wherein at least
5 a portion of collections of information items generated by said secondary publishers is
6 placed into local databases of said secondary publishers.

7
8 80. The method of delivering personalized information to users of claim 74, wherein at least
9 a portion of collections of information items generated by said secondary publishers is
10 transferred into a central database of said primary publisher.

11
12 81. The method of delivering personalized information to users of claim 68, wherein at least
13 a portion of information items necessary for generation of said collections of information
14 items is received by said secondary publishers from publishers of higher levels of
15 hierarchy.

16
17 82. The method of delivering personalized information to users of claim 68, wherein at least
18 a portion of information items necessary for generation of said collections of information
19 items is collected by said secondary publisher from licensed commercial sources, free
20 sources, and independent authors.

21
22 83. The method of delivering personalized information to users of claim 82, wherein at least
23 a portion of information items retrieved by said secondary publisher is stored on at least
24 one local database of said secondary publisher.

1
2 84. The method of delivering personalized information to users of claim 82, wherein at least
3 a portion of information items retrieved by said secondary publisher is transferred into at
4 least one central database of primary publisher.
5

6 85. The method of delivering personalized information to users of claim 82, wherein
7 information items retrieved by said secondary publishers are evaluated by primary
8 publishers or secondary publishers of higher level of hierarchy in order to make
9 conclusions about their usability in collections of information items.
10

11 86. The method of delivering personalized information to users of claim 68, wherein said
12 secondary publisher distributes said collections of information items completely
13 generated by publishers of higher levels of hierarchy.
14

15 87. The method of delivering personalized information to users of claim 86, wherein said
16 secondary publisher provides users with general purpose or specialized collections of
17 information items.
18

19 88. The method of delivering personalized information to users of claim 87, wherein said
20 secondary publisher influences content of said collections of information items by fixing
21 some topical sections.
22

23 89. The method of delivering personalized information to users of claim 87, wherein said
24 secondary publisher influences content of said collections of information items by

1 establishing his own response collection technique with personal information users.

2
3 90. The method of delivering personalized information to users of claim 68, wherein a user
4 registers to receive said personal information with said primary or secondary publisher.

5
6 91. The method of delivering personalized information to users of claim 90, wherein user's
7 user profile is stored on at least one local database of said primary or secondary publisher
8 said user has registered with.

9
10 92. The method of delivering personalized information to users of claim 91, wherein user's
11 user profile is transferred into at least one central database of a primary publisher.

12
13 93. The method of delivering personalized information to users of claim 68, wherein user
14 responses collected by said secondary publisher are analyzed by said secondary publisher.

15
16 94. The method of delivering personalized information to users of claim 69, wherein user
17 responses collected by said secondary publisher are forwarded to said primary publisher
18 or secondary publisher of higher level of hierarchy.

19
20 95. The method of delivering personalized information to users of claim 93, wherein at least
21 one secondary publisher establishes his own methods for analyzing user responses.

22
23 96. The method of delivering personalized information to users of claim 94, wherein said
24 secondary publisher provides said primary publisher or said secondary publisher of higher

1 level of hierarchy with methods and procedures for analyzing user responses.

2
3 97. The method of delivering personalized information to users of claim 66, wherein said
4 logical model of personal information is established by said primary publisher or a
5 secondary publisher.

6
7 98. The method of delivering personalized information to users of claim 97, wherein said
8 primary publisher establishes restrictions on said secondary publishers ability to introduce
9 their own logical models of personal information.

10
11 99. The method of delivering personalized information to users of claim 97, wherein said
12 secondary publisher establishes restrictions on secondary publishers of lower levels of
13 hierarchy to introduce their own logical models of personal information.

14
15 100. The method of delivering personalized information to users of claim 97, wherein said
16 logical model of personal information developed or acquired by said primary or said
17 secondary publisher is forwarded to another primary or secondary publisher.

18
19 101. The method of delivering personalized information to users of claim 1, wherein:
20 user profiles are initially formed by selecting a set of N topical fields of interest and
21 defining a significance magnitude for each topical field to create an N-dimensional information
22 space;
23 user profiles are refined by analyzing user responses to update the significance magnitude
24 for each topical field;

1 a trajectory is interpolated in said information space based on the updated significance
2 magnitudes; and

3 an information vector is defined as a vector tangent to said trajectory with a magnitude
4 defined as the derivative of the trajectory function at a given point to characterize how fast and in
5 what directions a user profile is changing.

6
7 102. The method of delivering personalized information to users of claim 101, including
8 analyzing a plurality of information vectors to assist in directing said step of collecting
9 information item.

10
11 103. The method of delivering personalized information to users of claim 101, including
12 analyzing a plurality of information vectors to predict users' need for some goods and
13 services.

14
15 104. The method of delivering personalized information to users of claim 1, wherein:
16 a plurality of users are associated as a group based on a common attribute;
17 a group profile is formed for said group;
18 a portion of information items delivered to said group as group information items is
19 chosen based on said group profile;
20 group information responses are collected from said group related to said group
21 information items; and
22 said group profile is refined based, at least in part, on said group information responses.

23
24 105. The method of delivering personalized information to users of claim 104, wherein each

1 user in said group specifies the portion of information items delivered based on said
2 user's user profile and the portion of information items delivered based on said group
3 profile.
4

5 106. The method of delivering personalized information to users of claim 104, wherein a third
6 party person specifies the portion of information items delivered based on each user's user
7 profile and the portion of information items delivered based on said group profile.
8

9 107. A method of delivering personalized information to users, comprising:
10 organizing multiple levels of primary and secondary publishers;
11 collecting information items;
12 storing said information on at least one database;
13 establishing a user profile for each user and storing said user profiles on at least one
14 database;
15 periodically delivering a collection of information items to each user as personalized
16 information, wherein at least a portion of information items from said collection is chosen based
17 on each user's user profile;
18 collecting responses from said users related to said personalized information; and
19 refining said user profile based, at least in part, on said responses.
20

21 108. The method of delivering personalized information to users of claim 107, wherein
22 primary publishers and secondary publishers distribute each of said collecting, storing,
23 delivering, and refining steps in a mutually agreed manner.

1
2 109. The method of delivering personalized information to users of claim 107, wherein
3 publishers act as primary publishers when they perform the step of collecting information
4 items and act as secondary publishers when they rely on other publishers to perform the
5 step of collecting information items.

6
7 110. The method of delivering personalized information to users of claim 107, wherein said
8 multiple levels of primary publishers and secondary publishers are organized as a
9 multilevel hierarchical structure where the primary publisher is on the top of hierarchy
10 and is responsible for the content of all personal information.

11
12 111. The method of delivering personalized information to users of claim 107, wherein
13 information items are collected from licensed commercial sources, free sources, and
14 independent authors.

15
16 112. The method of delivering personalized information to users of claim 107, wherein a
17 primary publisher collects said information items.

18
19 113. The method of delivering personalized information to users of claim 112, wherein said
20 primary publisher stores at least a portion of said information items on a publisher
21 database.

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1 114. The method of delivering personalized information to users of claim 107, wherein
2 personal topical interests, preferences and psychological-type of each user are fixed in
3 each user's user profile.
4

5 115. The method of delivering personalized information to users of claim 114, wherein said
6 primary publisher stores at least a portion of said user profiles on a publisher database
7

8 116. The method of delivering personalized information to users of claim 107, wherein said
9 personalized information is delivered by a channel chosen from the group consisting of
10 Internet web pages, FTP downloads, e-mail, facsimile transmission, delivered paper
11 hardcopy, magnetic media, optical media, broadcast TV, and radio.
12

13 117. The method of delivering personalized information to users of claim 107, wherein said
14 responses are collected by a channel chosen from the group consisting of Internet web
15 pages, e-mail, facsimile transmission, delivered paper hardcopy, and voice mail.
16

17 118. The method of delivering personalized information to users of claim 111, wherein said
18 information items are indexed and classified into topical fields.
19

20 119. The method of delivering personalized information to users of claim 107, wherein said
21 information items are filtered to release a user from information which is excessive or
22 useless by allocating only the most essential pieces of knowledge or information.

1
2 120. The method of delivering personalized information to users of claim 119, wherein a
3 filtering algorithm reduces a size of an information item to a specific value while
4 preserving general content of said information item as close as possible.
5

6 121. The method of delivering personalized information to users of claim 120, wherein a
7 synopsis is generated for an information item on the basis of semantic analysis of said
8 information item.
9

10 122. The method of delivering personalized information to users of claim 119, wherein a
11 filtering algorithm reduces a size of an information item by preserving only a part of said
12 information item related to a topical field designated in user's user profile.
13

14 123. The method of delivering personalized information to users of claim 107, wherein a
15 portion of information items from said delivered collection is chosen by at least one
16 secondary publisher.
17

18 124. The method of delivering personalized information to users of claim 123, wherein said
19 secondary publisher produces secondary information items and said secondary
20 information items are collected and stored on said publisher database.
21

22 125. The method of delivering personalized information to users of claim 123, wherein said

1 responses are collected by said secondary publisher.

2
3 126. The method of delivering personalized information to users of claim 125, wherein said
4 secondary publisher controls release of collected responses to said publisher.

5
6 127. The method of delivering personalized information to users of claim 125, wherein said
7 secondary publisher analyzes said responses to create information in a form usable by
8 said publisher, said secondary publisher, or another secondary publisher.

9
10 128. The method of delivering personalized information to users of claim 111, wherein
11 independent authors supply specific information items proceeding from their own topical
12 interests.

13
14 129. The method of delivering personalized information to users of claim 111, wherein
15 independent authors supply specific information items in reply to requests for specific
16 information.

17
18 130. The method of delivering personalized information to users of claim 129, wherein a
19 primary publisher of personalized information requests specific information items from
20 independent authors based on said publisher's topical interests, topical field of distributed
21 personalized information, and topical interests of users of personalized information.
22

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1 131. The method of delivering personalized information to users of claim 111, wherein said
2 independent authors produce specific information items in response to general interests
3 revealed by said responses.

4
5 132. The method of delivering personalized information to users of claim 128, 129, or 131,
6 wherein user responses to said specific information items are used to rate, compensate, or
7 rate and compensate said independent authors.

8
9 133. The method of delivering personalized information to users of claim 111, wherein said
10 independent authors are paid royalties each time one of their information items is
11 included in a user's personal information.

12
13 134. The method of delivering personalized information to users of claim 111, wherein said
14 independent authors are paid royalties for submitted information items independently on
15 how many times said information items are actually included in a user's personal
16 information.

17
18 135. The method of delivering personalized information to users of claim 107, wherein a user
19 registers to receive said personal information with said primary publisher or secondary
20 publisher.

21
22 136. The method of delivering personalized information to users of claim 135, wherein said

1 user registers to receive said personal information by filling in a standard form.

2
3 137. The method of delivering personalized information to users of claim 135, wherein said
4 user chooses at least one personal information collection from a plurality of information
5 collections released by said publisher.

6
7 138. The method of delivering personalized information to users of claim 135, wherein said
8 user supplies an initial field of topical interest or an initial user profile.

9
10 139. The method of delivering personalized information to users of claim 138, wherein said
11 user supplies an initial field of topical interest by selecting some topical sections from a
12 given predefined set

13
14 140. The method of delivering personalized information to users of claim 138, wherein said
15 user supplies an initial field of topical interest by a method chosen from the group
16 consisting of choosing a user profile of one of the earlier registered users of said personal
17 information, combining user profiles of any number of earlier registered users, specifying
18 a user profile generated by a publisher of said personal information, and combinations of
19 any one of these methods with the additional selection of some topical sections from a
20 given predefined set.

21
22 141. The method of delivering personalized information to users of claim 138, wherein said

1 user supplies an initial field of topical interest referencing to well-known information
2 sources or information publications.
3

4 142. The method of delivering personalized information to users of claim 135, wherein a user's
5 psychological-type is evaluated by applying psychological tests for input into said user's
6 user profile.
7

8 143. The method of delivering personalized information to users of claim 135, wherein each
9 user chooses a condition determinative of a periodic delivery of said personal
10 information.
11

12 144. The method of delivering personalized information to users of claim 143, wherein a
13 condition determinative of said periodic delivery of said personal information is selected
14 from the group consisting of a user's requests for specific information, a user-defined
15 schedule, and a specific event chosen by a user
16

17 145. The method of delivering personalized information to users of claim 144, wherein a
18 specific event is an accumulation of a user-defined amount of undelivered information
19 items.
20

21 146. The method of delivering personalized information to users of claim 143, wherein said
22 condition determinative of said periodic delivery of said personal information is a specific

1 event and the only information item delivered is related to said specific event.

2
3 147. The method of delivering personalized information to users of claim 143, wherein said
4 condition determinative of said periodic delivery of said personal information is specified
5 by a user or by a third party appointed by said user.

6
7 148. The method of delivering personalized information to users of claim 135, wherein user's
8 user profile is created during registration.

9
10 149. The method of delivering personalized information to users of claim 148, wherein at least
11 a portion of information submitted during registration, including a user's field of interest,
12 is stored in said user's user profile.

13
14 150. The method of delivering personalized information to users of claim 135, wherein a user
15 is provided with unique password or identifier which is used to access collections of
16 information items.

17
18 151. The method of delivering personalized information to users of claim 107, wherein a
19 person learns about an existence of said personal information through advertisements or
20 advertising collections of information items distributed by a publisher via generally
21 available printed and electronic media.

1 152. The method of delivering personalized information to users of claim 151, wherein said
2 advertising collections of information items are generated on the basis of most common
3 topical interests of registered users of said personal information.
4

5 153. The method of delivering personalized information to users of claim 151, wherein some
6 collections of information items generated for users of said personal information are used
7 as advertisements.
8

9 154. The method of delivering personalized information to users of claim 151, wherein
10 advertising collections of information items are periodically updated.
11

12 155. The method of delivering personalized information to users of claim 107, wherein said
13 responses from users are selected from the group consisting of information item usage,
14 subjective views on said information items, user requests, inquiry responses, and
15 formalized user statements.
16

17 156. The method of delivering personalized information to users of claim 155, wherein said
18 subjective views on said information items are expressed in a form selected from the
19 group consisting of evaluation of quality using a scale, expression of user's opinion about
20 information items, and comments to submitted information items.
21

22 157. The method of delivering personalized information to users of claim 107, wherein

1 collecting responses includes users marking paper hardcopy response forms and machine-
2 reading the data from said forms.

3
4 158. The method of delivering personalized information to users of claim 157, wherein said
5 response forms are transmitted by facsimile and machine-reading is performed by
6 recognition software.

7
8 159. The method of delivering personalized information to users of claim 158, wherein
9 said response forms include a section for users to create e-mail;
10 users address and draft messages in said section;
11 users indicate whether to send said messages as text or graphics files;
12 said section is recognized as text or graphics by said recognition software; and
13 said message is sent, as addressed, in the indicated format.

14
15 160. The method of delivering personalized information to users of claim 155, wherein said user
16 request expresses a user's interest in receiving future information items related to a present
17 information item.

18
19 161. The method of delivering personalized information to users of claim 155, wherein said user
20 request expresses a user's interest in receiving some additional information items submitted
21 by the same independent author.
22

1 162. The method of delivering personalized information to users of claim 155, wherein a user
2 request contains a priority assigned by said user to requested information items or topical
3 fields.

4
5 163. The method of delivering personalized information to users of claim 162, wherein
6 information items with higher priority are included into issues of personalized information in
7 the priority order.

8
9 164. The method of delivering personalized information to users of claim 162, wherein highest
10 priority is assigned to hot news or other urgent information items or topical fields.

11
12 165. The method of delivering personalized information to users of claim 164, wherein a user
13 orders additional comments to hot news or other urgent information items using a specific
14 request.

15
16 166. The method of delivering personalized information to users of claim 165, wherein a user
17 orders comments reflecting a desired point of view or submitted by an independent author
18 requested to by said user.

19
20 167. The method of delivering personalized information to users of claim 155, wherein a user may
21 delete topical sections from their user profile.

1 168. The method of delivering personalized information to users of claim 107, wherein each said
2 collection of information items, in addition to information items fitting the user's user profile,
3 includes some publisher's information items which are deemed to be most important at the
4 time of generation of said collection.

5
6 169. The method of delivering personalized information to users of claim 107, wherein a user may
7 export their user profile for use by another user.

8
9 170. The method of delivering personalized information to users of claim 169, wherein a user may
10 import a user profile for their use that has been exported by another user.

11
12 171. The method of delivering personalized information to users of claim 107, wherein user
13 profiles are used for special reasons selected from the group consisting of marketing research
14 and interrogation of public opinion.

15
16 172. The method of delivering personalized information to users of claim 107, wherein access to
17 certain information items requires said user to provide a certain response.

18
19 173. The method of delivering personalized information to users of claim 172, wherein said
20 certain response is selected from the group consisting of authorizing payment, authorizing
21 release of user information, viewing advertisements, viewing and registering responses to
22 advertisements, viewing information, viewing and registering responses to information,

1 responding to a questionnaire, and responding to a poll.

2
3 174. The method of delivering personalized information to users of claim 107, wherein said
4 personalized information is delivered in a form suitable for providing personal organizer
5 functions to said user.

6
7 175. The method of delivering personalized information to users of claim 174, wherein a user may
8 create individual collections of information items from various issues of personalized
9 information, establish personal information archives, add personal comments on information
10 items, place bookmarks in selected places indicating a time to refer to them in the future or
11 activating upon the occurrence of a user-defined event, and add new information items to the
12 current issue of personalized information.

13
14 176. The method of delivering personalized information to users of claim 175, wherein individual
15 collections of information items and personal information archives are organized as a
16 plurality of sections associated with various fields of interest of said user or with one of
17 user's projects.

18
19 177. The method of delivering personalized information to users of claim 107, wherein said
20 personalized information is delivered in an electronic form provided with interactive tools
21 comprising navigating tools, archiving tools, annotating tools, calendar tools, printing tools,
22 and communication tools.

1 said collections some specific information items.

2
3 183. The method of delivering personalized information to users of claim 182, wherein topical
4 fields of said specialized collection of information items are determined by topical interests
5 of said secondary publisher and are established by fixing some topical sections.
6

7 184. The method of delivering personalized information to users of claim 180, wherein said
8 collections of information items distributed by said secondary publisher are generated by said
9 primary publisher on request of said secondary publisher or by said secondary publisher
10 himself using available information items.
11

12 185. The method of delivering personalized information to users of claim 180, wherein at least a
13 portion of collections of information items generated by said secondary publishers is placed
14 into local databases of said secondary publishers
15

16 186. The method of delivering personalized information to users of claim 180, wherein at least a
17 portion of collections of information items generated by said secondary publishers is
18 transferred into a central database of said primary publisher.
19

20 187. The method of delivering personalized information to users of claim 180, wherein at least a
21 portion of information items necessary for generation of said collections of information items
22 is received by said secondary publishers from publishers of higher levels of hierarchy.

1
2 188. The method of delivering personalized information to users of claim 180, wherein at least a
3 portion of information items necessary for generation of said collections of information items
4 is collected by said secondary publisher from licensed commercial sources, free sources, and
5 independent authors.

6
7 189. The method of delivering personalized information to users of claim 188, wherein at least a
8 portion of information items retrieved by said secondary publisher is stored on at least one
9 local database of said secondary publisher.

10
11 190. The method of delivering personalized information to users of claim 188, wherein at least a
12 portion of information items retrieved by said secondary publisher is transferred into at least
13 one central database of said primary publisher.

14
15 191. The method of delivering personalized information to users of claim 188, wherein
16 information items retrieved by said secondary publishers are evaluated by primary publisher
17 or secondary publishers of higher level of hierarchy in order to make conclusions about their
18 usability in collections of information items.

19
20 192. The method of delivering personalized information to users of claim 180, wherein said
21 secondary publisher distributes said collections of information items completely generated by
22 publishers of higher levels of hierarchy.

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193. The method of delivering personalized information to users of claim 192, wherein said secondary publisher provides users with general purpose or specialized collections of information items.

194. The method of delivering personalized information to users of claim 193, wherein said secondary publisher influences content of said collections of information items by fixing some topical sections.

195. The method of delivering personalized information to users of claim 193, wherein said secondary publisher influences content of said collections of information items by establishing their own response collection technique with personal information users.

196. The method of delivering personalized information to users of claim 135, wherein user's user profile is stored on at least one local database of said publisher or secondary publisher said user has registered with.

197. The method of delivering personalized information to users of claim 196, wherein user's user profile is transferred into at least one central database of a primary publisher.

198. The method of delivering personalized information to users of claim 107, wherein user responses collected by said secondary publisher are analyzed by said secondary publisher.

1
2 199. The method of delivering personalized information to users of claim 110, wherein user
3 responses collected by said secondary publisher are forwarded to said primary publisher or
4 secondary publisher of higher level of hierarchy.
5

6 200. The method of delivering personalized information to users of claim 198, wherein at least
7 one secondary publisher establishes his own methods for analyzing user responses.
8

9 201. The method of delivering personalized information to users of claim 200, wherein said
10 secondary publisher provides said primary publisher or said secondary publisher of higher
11 level of hierarchy with methods and procedures for analyzing user responses.
12

13 202. The method of delivering personalized information to users of claim 107, wherein a logical
14 model of personal information is established by said primary or said secondary publishers
15 comprising:
16 methods for users' responses analysis;
17 interfaces of users' workplaces;
18 algorithms for taking into account users' profiles during generation of collections of
19 information items for common use; and
20 algorithms for prediction of necessities of users of personal information in goods and services
21 through analysis of users' responses.
22

1 203. The method of delivering personalized information to users of claim 202, wherein logical
2 models of personal information are provided by independent suppliers on request of said
3 primary or said secondary publisher.
4

5 204. The method of delivering personalized information to users of claim 202, wherein said
6 primary publisher establishes restrictions on said secondary publishers' ability to introduce
7 their own logical models of personal information.
8

9 205. The method of delivering personalized information to users of claim 202, wherein said
10 secondary publisher establishes restrictions on secondary publishers of lower levels of
11 hierarchy to introduce their own logical models of personal information.
12

13 206. The method of delivering personalized information to users of claim 202, wherein said
14 logical model of personal information developed or acquired by said primary or said
15 secondary publisher is forwarded to another primary or secondary publisher.
16

17 207. The method of delivering personalized information to users of claim 107, wherein:
18 user profiles are initially formed by selecting a set of N topical fields of interest and defining
19 a significance magnitude for each topical field to create an N-dimensional information space;
20 user profiles are refined by analyzing user responses to update the significance magnitude for
21 each topical field;
22 a trajectory in said information space is interpolated based on the updated significance

1 magnitudes; and

2 an information vector is defined as a vector tangent to said trajectory with a magnitude
3 defined as the derivative of the trajectory function at a given point to characterize how fast and in
4 what directions a user profile is changing.

5
6 208. The method of delivering personalized information to users of claim 207, including
7 analyzing a plurality of information vectors to assist in directing said step of collecting
8 information items.

9
10 209. The method of delivering personalized information to users of claim 207, including
11 analyzing a plurality of information vectors to predict users' need for some goods and
12 services.

13
14 210. The method of delivering personalized information to users of claim 107, wherein:
15 a plurality of users are associated as a group based on a common attribute;
16 a group profile is formed for said group;
17 at least a portion of information items delivered to said group as group information items is
18 chosen based on said group profile;
19 group information responses are collected from said group related to said group information
20 items; and
21 said group profile is refined based, at least in part, on said group information responses.
22

1 211. The method of delivering personalized information to users of claim 210, wherein each user
2 in said group specifies the portion of information items delivered based on his user profile
3 and the portion of information items delivered based on said group profile.
4

5 212. The method of delivering personalized information to users of claim 210, wherein a third
6 party person specifies the portion of information items delivered based on each user's user
7 profile and the portion of information items delivered based on said group profile.
8

9 213. A method of delivering personalized information to users, comprising:
10 collecting information items;
11 storing said information items on at least one database;
12 establishing a user profile for each user and storing said user profiles on at least one database;
13 periodically delivering a collection of information items to each user as personalized
14 information, wherein at least a portion of information items from said collection is chosen based on
15 each user's user profile;
16 collecting responses other than information item usage from said users related to said
17 personalized information; and
18 refining each user profile based, at least in part, on said user's responses.
19

20 214. The method of delivering personalized information to users of claim 213, wherein said
21 information items are collected from licensed commercial sources, free sources, and
22 independent authors.

- 1
- 2 215. The method of delivering personalized information to users of claim 213, wherein personal
- 3 topical interests, preferences and psychological-type of each user are fixed in user's user
- 4 profile.
- 5
- 6 216. The method of delivering personalized information to users of claim 213, wherein said
- 7 personalized information is delivered by a channel selected from the group consisting of
- 8 Internet web pages, FTP downloads, e-mail, facsimile transmission, delivered paper
- 9 hardcopy, magnetic media, optical media, broadcast TV, and radio.
- 10
- 11 217. The method of delivering personalized information to users of claim 213, wherein said
- 12 responses are collected by a channel selected from the group consisting of Internet web
- 13 pages, e-mail, facsimile transmission, delivered paper hardcopy, and voice mail.
- 14
- 15 218. The method of delivering personalized information to users of claim 214, wherein said
- 16 information items are indexed and classified into topical fields.
- 17
- 18 219. The method of delivering personalized information to users of claim 214, wherein said
- 19 information items are filtered to release a user from information which is excessive or useless
- 20 by allocating only the most essential pieces of knowledge or information.
- 21
- 22 220. The method of delivering personalized information to users of claim 219, wherein a filtering

1 algorithm reduces a size of an information item to a specific value while preserving general
2 content of said information item as close as possible.

3
4 221. The method of delivering personalized information to users of claim 220, wherein a synopsis
5 is generated for an information item on the basis of semantic analysis of said information
6 item.

7
8 222. The method of delivering personalized information to users of claim 219, wherein a filtering
9 algorithm reduces a size of an information item by preserving only a part of said information
10 item related to a topical field designated in user's user profile.

11
12 223. The method of delivering personalized information to users of claim 213, wherein a
13 publisher collects said information items.

14
15 224. The method of delivering personalized information to users of claim 223, wherein said
16 publisher stores at least a portion of said information items and at least a portion of said user
17 profiles on a publisher database.

18
19 225. The method of delivering personalized information to users of claim 213, wherein a portion
20 of information items from said collection is chosen by at least one secondary publisher.

21
22 226. The method of delivering personalized information to users of claim 225 wherein said

1 secondary publisher produces secondary information items and said secondary information
2 items are collected and stored on said publisher database.
3

4 227. The method of delivering personalized information to users of claim 225, wherein said
5 responses are collected by said secondary publisher.
6

7 228. The method of delivering personalized information to users of claim 227, wherein said
8 secondary publisher controls release of collected responses to said publisher.
9

10 229. The method of delivering personalized information to users of claim 227, wherein said
11 secondary publisher analyzes said responses to create information in a form usable by said
12 publisher, said secondary publisher, or another secondary publisher.
13

14 230. The method of delivering personalized information to users of claim 214, wherein
15 independent authors supply specific information items to a publisher or secondary publisher
16 proceeding from their own topical interests.
17

18 231. The method of delivering personalized information to users of claim 214, wherein
19 independent authors supply specific information items to a publisher or secondary publisher
20 in reply to requests for specific information.
21

22 232. The method of delivering personalized information to users of claim 231, wherein a

1 publisher of personalized information requests specific information items from independent
2 authors proceeding from the publisher's topical interests, topical field of distributed
3 personalized information, and topical interests of users of personalized information.
4

5 233. The method of delivering personalized information to users of claim 232, wherein said
6 independent authors produce information items in response to general interests revealed by
7 said responses.
8

9 234. The method of delivering personalized information to users of claim 230, 231 or 233,
10 wherein user responses to said specific information items are used to rate, compensate, or
11 rate and compensate said independent authors.
12

13 235. The method of delivering personalized information to users of claim 214, wherein said
14 independent authors are paid royalties each time one of their information items is included in
15 a user's personal information.
16

17 236. The method of delivering personalized information to users of claim 214, wherein said
18 independent authors are paid royalties for submitted information items independently on how
19 many times said information items are actually included in a user's personal information.
20

21 237. The method of delivering personalized information to users of claim 213, wherein a user
22 registers to receive said personal information with a publisher or secondary publisher.

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1
2 238. The method of delivering personalized information to users of claim 237, wherein said user
3 registers to receive said personal information by filling in a standard form.
4

5 239. The method of delivering personalized information to users of claim 237, wherein said user
6 chooses at least one personal information collection from a plurality of information
7 collections released by said publisher.
8

9 240. The method of delivering personalized information to users of claim 237, wherein said user
10 supplies an initial field of topical interest or an initial user profile.
11

12 241. The method of delivering personalized information to users of claim 240, wherein a user
13 supplies an initial field of topical interest by selecting some topical sections from a given
14 predefined set.
15

16 242. The method of delivering personalized information to users of claim 240, wherein said user
17 supplies an initial field of topical interest by a method chosen from the group consisting of
18 choosing a user profile of one of the earlier registered users of said personal information,
19 combining user profiles of any number of earlier registered users, specifying a user profile
20 generated by a publisher of said personal information, and combinations of any one of these
21 methods with the additional selection of some topical sections from a given predefined set.
22

1 243. The method of delivering personalized information to users of claim 240, wherein said user
2 supplies an initial field of topical interest referencing to well-known information sources or
3 information publications.

4
5 244. The method of delivering personalized information to users of claim 237, wherein user's
6 psychological-type is evaluated by applying psychological tests for input into said user's user
7 profile.

8
9 245. The method of delivering personalized information to users of claim 237, wherein each user
10 chooses a condition determinative of a periodic delivery of said personal information.

11
12 246. The method of delivering personalized information to users of claim 245, wherein a
13 condition determinative of said periodic delivery of said personal information is selected
14 from the group consisting of a user's request for specific information, a user-defined
15 schedule, and a specific event chosen by a user.

16
17 247. The method of delivering personalized information to users of claim 246, wherein a specific
18 event is an accumulation of a user-defined amount of undelivered information items.

19
20 248. The method of delivering personalized information to users of claim 245, wherein said
21 condition determinative of said periodic delivery of said personal information is a specific
22 event and the only information item delivered is related to said specific event.

1
2 249. The method of delivering personalized information to users of claim 245, wherein said
3 condition determinative of said periodic delivery of said personal information is specified by
4 a user or by a third party appointed by said user.

5
6 250. The method of delivering personalized information to users of claim 237, wherein user's user
7 profile is created during registration.

8
9 251. The method of delivering personalized information to users of claim 250, wherein at least a
10 portion of information submitted during registration, including a user's field of interest, is
11 stored in said user's user profile.

12
13 252. The method of delivering personalized information to users of claim 237, wherein a user is
14 provided with unique password or identifier which is used to access collections of
15 information items.

16
17 253. The method of delivering personalized information to users of claim 213, wherein a person
18 learns about an existence of said personal information through advertisements or advertising
19 collections of information items distributed by a publisher via generally available printed and
20 electronic media.

21
22 254. The method of delivering personalized information to users of claim 253, wherein said

1 advertising collections of information items are generated on the basis of most common
2 topical interests of registered users of said personal information.

3
4 255. The method of delivering personalized information to users of claim 253, wherein some
5 collections of information items generated for users of said personal information are used as
6 advertisements.

7
8 256. The method of delivering personalized information to users of claim 253, wherein
9 advertising collections of information items are periodically updated.

10
11 257. The method of delivering personalized information to users of claim 213, wherein said
12 responses from users are selected from the group consisting of subjective views on said
13 information items, user requests, inquiry responses, and formalized user statements.

14 258. The method of delivering personalized information to users of claim 257, wherein said
15 subjective views on said information items are expressed in a form selected from the group
16 consisting of evaluation of quality using a scale, expression of user's opinion about
17 information items, and comments to submitted information items.

18
19 259. The method of delivering personalized information to users of claim 213, wherein collecting
20 responses includes users marking paper hardcopy response forms and machine-reading the
21 data from said forms.

1 260. The method of delivering personalized information to users of claim 259, wherein said
2 response forms are transmitted by facsimile and machine-reading is performed by recognition
3 software.

4
5 261. The method of delivering personalized information to users of claim 260, wherein said
6 response forms include a section for:
7 users to create e-mail;
8 users address and draft messages in said section;
9 users indicate whether to send said messages as text or graphics files, wherein said section is
10 recognized as text or graphics by said recognition software; and said message is sent, as addressed,
11 in the indicated format.

12
13 262. The method of delivering personalized information to users of claim 257, wherein said user
14 request expresses a user's interest in receiving future information items related to a present
15 information item.

16
17 263. The method of delivering personalized information to users of claim 257, wherein said user
18 request expresses user's interest in receiving some additional information items submitted by
19 the same independent author.

20
21 264. The method of delivering personalized information to users of claim 257, wherein a user
22 request contains a priority assigned by said user to requested information items or topical

1 fields.

2
3 265. The method of delivering personalized information to users of claim 264, wherein
4 information items with higher priority are included into issues of personalized information in
5 the priority order.

6
7 266. The method of delivering personalized information to users of claim 264, wherein highest
8 priority is assigned to hot news or other urgent information items or topical fields.

9
10 267. The method of delivering personalized information to users of claim 266, wherein a user
11 orders additional comments to hot news or other urgent information items using a specific
12 request.

13
14 268. The method of delivering personalized information to users of claim 267, wherein a user
15 orders comments reflecting a desired point of view or submitted by an independent author
16 requested by said user.

17
18 269. The method of delivering personalized information to users of claim 257, wherein a user may
19 delete topical sections from their user profile.

20
21 270. The method of delivering personalized information to users of claim 213, wherein each said
22 collection of information items, in addition to information items fitting the user's user profile,

1 includes some publisher's information items which are deemed to be most important at the
2 time of generation of said collection.

3
4 271. The method of delivering personalized information to users of claim 213, wherein a user may
5 export their user profile for use by another user.

6
7 272. The method of delivering personalized information to users of claim 271, wherein a user may
8 import a user profile for their use that has been exported by another user.

9
10 273. The method of delivering personalized information to users of claim 213, wherein user
11 profiles are used for special reasons selected from the group consisting of marketing
12 researches and interrogation of public opinion.

13
14 274. The method of delivering personalized information to users of claim 213, wherein access to
15 certain information items requires said user to provide a certain response.

16
17 275. The method of delivering personalized information to users of claim 274, wherein said
18 certain response is selected from the group consisting of authorizing payment, authorizing
19 release of user information, viewing advertisements, viewing and registering responses to
20 advertisements, viewing information, viewing and registering responses to information,
21 responding to a questionnaire, and responding to a poll.

1 276. The method of delivering personalized information to users of claim 213, wherein said
2 personalized information is delivered in a form suitable for providing personal organizer
3 functions to said user.

4
5 277. The method of delivering personalized information to users of claim 276, wherein a user may
6 create individual collections of information items from various issues of personalized
7 information, establish personal information archives, add personal comments on information
8 items, place bookmarks in selected places indicating a time to refer to them in the future or
9 activating upon the occurrence of a user-defined event, and add new information items to the
10 current issue of personalized information.

11
12 278. The method of delivering personalized information to users of claim 277, wherein individual
13 collections of information items and personal information archives can be organized as a
14 plurality of sections associated with various fields of interest of said user or with one of
15 user's projects.

16
17 279. The method of delivering personalized information to users of claim 213, wherein said
18 personalized information is delivered in an electronic form provided with interactive tools
19 comprising navigating tools, archiving tools, annotating tools, calendar tools, printing tools,
20 and communication tools.

21
22 280. The method of delivering personalized information to users of claim 213, wherein a logical

1 model of personal information is established by a publisher comprising:
2 methods for users' responses analysis;
3 interfaces of users' workplaces;
4 algorithms for taking into account users' profiles during generation of collections of
5 information items for common use; and
6 algorithms for prediction of necessities of users of personal information in goods and services
7 through analysis of users' responses.
8

9 281. The method of delivering personalized information to users of claim 280, wherein logical
10 models of personal information are provided by independent suppliers on request of said
11 publisher.
12

13 282. The method of delivering personalized information to users of claim 213, including
14 organizing multiple levels of primary publishers and secondary publishers that distribute
15 each of said collecting, storing, delivering, and refining steps in a mutually agreed manner,
16 wherein publishers act as primary publishers when they perform the step of collecting
17 information items and act as secondary publishers when they rely on other publishers to
18 perform the step of collecting information items.
19

20 283. The method of delivering personalized information to users of claim 282, wherein said
21 multiple levels of primary publishers and secondary publishers are organized as a multilevel
22 hierarchical structure where the primary publisher is on the top of hierarchy and is

1 responsible for the content of all personal information.

2
3 284. The method of delivering personalized information to users of claim 282, wherein said
4 primary publisher collects information items from licensed commercial sources, free sources,
5 and independent authors.

6
7 285. The method of delivering personalized information to users of claim 284, wherein said
8 primary publisher stores said information items on at least one central database.

9
10 286. The method of delivering personalized information to users of claim 282, wherein said
11 primary publisher provides said secondary publishers with information items they need to
12 generate collections of information items.

13
14 287. The method of delivering personalized information to users of claim 282, wherein said
15 primary publisher is responsible for personal information released by said secondary
16 publishers and also for information items submitted to them.

17
18 288. The method of delivering personalized information to users of claim 282, wherein said
19 secondary publishers either assist said primary publisher in generation and distribution of
20 collections of information items or generate and distribute their own collections of
21 information items.

1 289. The method of delivering personalized information to users of claim 282, wherein said
2 collections of information items distributed by said secondary publishers differs from
3 collections distributed by said primary publisher in such a way that both primary and
4 secondary publishers use different approaches to information items selection and different
5 response collection technique with personal information users.

6
7 290. The method of delivering personalized information to users of claim 282, wherein said
8 secondary publishers generate specialized collections of information items by including into
9 said collections some specific information items.

10
11 291. The method of delivering personalized information to users of claim 290, wherein a topical
12 field of said specialized collection of information items is determined by topical interests of
13 said secondary publisher and is established by fixing some topical sections.

14
15 292. The method of delivering personalized information to users of claim 282, wherein said
16 collections of information items distributed by said secondary publisher are generated by said
17 primary publisher on request of said secondary publisher or by said secondary publisher
18 himself using available information items.

19
20 293. The method of delivering personalized information to users of claim 288, wherein at least a
21 portion of collections of information items generated by said secondary publishers is placed
22 into local databases of said secondary publishers.

1
2 294. The method of delivering personalized information to users of claim 288, wherein at least a
3 portion of collections of information items generated by said secondary publishers is
4 transferred into central database of said primary publisher.
5

6 295. The method of delivering personalized information to users of claim 282, wherein at least a
7 portion of information items necessary for generation of said collections of information items
8 is received by said secondary publishers from publishers of higher levels of hierarchy.
9

10 296. The method of delivering personalized information to users of claim 282, wherein at least a
11 portion of information items necessary for generation of said collections of information items
12 is collected by said secondary publisher from licensed commercial sources, free sources, and
13 independent authors.
14

15 297. The method of delivering personalized information to users of claim 296, wherein at least a
16 portion of information items retrieved by said secondary publisher is stored on at least one
17 local database of said secondary publisher.
18

19 298. The method of delivering personalized information to users of claim 296, wherein at least a
20 portion of information items retrieved by said secondary publisher is transferred into at least
21 one central database of primary publisher.
22

1 299. The method of delivering personalized information to users of claim 296, wherein
2 information items retrieved by said secondary publishers are evaluated by primary publisher
3 or one of secondary publishers of higher level of hierarchy in order to make conclusions
4 about their usability in collections of information items.

5
6 300. The method of delivering personalized information to users of claim 282, wherein said
7 secondary publisher distributes said collections of information items completely generated by
8 publishers of higher levels of hierarchy.

9
10 301. The method of delivering personalized information to users of claim 300, wherein said
11 secondary publisher provides users with general purpose or specialized collections of
12 information items.

13
14 302. The method of delivering personalized information to users of claim 301, wherein said
15 secondary publisher influences content of said collections of information items by fixing
16 some topical sections.

17 303. The method of delivering personalized information to users of claim 301, wherein said
18 secondary publisher influences content of said collections of information items by
19 establishing his own feedback technique with personal information users.

20
21 304. The method of delivering personalized information to users of claim 282, wherein a user
22 registers to receive said personal information with said primary or secondary publisher.

1
2 305. The method of delivering personalized information to users of claim 304, wherein user's user
3 profile is stored on at least one local database of said secondary publisher said user has
4 registered with.

5
6 306. The method of delivering personalized information to users of claim 305, wherein user's user
7 profile is transferred into at least one central database of a primary publisher.

8
9 307. The method of delivering personalized information to users of claim 282, wherein user
10 responses collected by said secondary publisher are analyzed by said secondary publisher.

11
12 308. The method of delivering personalized information to users of claim 283, wherein user
13 responses collected by said secondary publisher are forwarded to said primary publisher or
14 secondary publisher of higher level of hierarchy.

15
16 309. The method of delivering personalized information to users of claim 307, wherein at least
17 one secondary publisher establishes his own methods for analysing user responses.

18
19 310. The method of delivering personalized information to users of claim 308, wherein said
20 secondary publisher provides said primary publisher or said secondary publisher of higher
21 level of hierarchy with methods and procedures for analysing user responses.

1 311. The method of delivering personalized information to users of claim 280, wherein said
2 logical model of personal information is established by said primary publisher or a secondary
3 publisher.

4
5 312. The method of delivering personalized information to users of claim 311, wherein said
6 primary publisher establishes restrictions on said secondary publishers to introduce their own
7 logical models of personal information.

8
9 313. The method of delivering personalized information to users of claim 311, wherein said
10 secondary publisher establishes restrictions on secondary publishers of lower levels of
11 hierarchy to introduce their own logical models of personal information.

12
13 314. The method of delivering personalized information to users of claim 311, wherein said
14 logical model of personal information developed or acquired by said primary or said
15 secondary publisher is forwarded to another primary or secondary publisher.

16
17 315. The method of delivering personalized information to users of claim 213, wherein:
18 user profiles are initially formed by selecting a set of N topical fields of interest and defining
19 a significance magnitude for each topical field to create an N-dimensional information space;
20 user profiles are refined by analyzing user responses to update the significance magnitude for
21 each topical field;
22 a trajectory is interpolated in said information space based on the updated significance

1 magnitudes; and

2 an information vector is defined as a vector tangent to said trajectory with a magnitude
3 defined as the derivative of the trajectory function at a given point to characterize how fast and in
4 what directions a user profile is changing.

5
6 316. The method of delivering personalized information to users of claim 315, including
7 analyzing a plurality of information vectors to assist in directing said step of collecting
8 information items.

9
10 317. The method of delivering personalized information to users of claim 315, including
11 analyzing a plurality of information vectors to predict users' need for some goods and
12 services.

13
14 318. The method of delivering personalized information to users of claim 213, wherein:
15 a plurality of users are associated as a group based on a common attribute;
16 a group profile is formed for said group;
17 a portion of information items delivered to said group as group information items is chosen
18 based on said group profile;
19 group information responses are collected from said group related to said group information
20 items; and
21 said group profile is refined based, at least in part, on said group information responses.
22

1 319. The method of delivering personalized information to users of claim 318, wherein each user
2 in said group specifies the portion of information items delivered based on said user's user
3 profile and the portion of information items delivered based on said group profile.
4

5 320. The method of delivering personalized information to users of claim 319, wherein a third
6 party person specifies the portion of information items delivered based on each user's user
7 profile and the portion of information items delivered based on said group profile.
8

9 321. A method of delivering personalized information to users, comprising:
10 collecting information items;
11 storing said information items on at least one database;
12 associating a plurality of users as a group based on a common attribute;
13 establishing a group profile for said group and storing said group profiles on at least one
14 database;
15 periodically delivering a collection of information items to each user as personalized
16 information, wherein at least a portion of information items from said collection is chosen based on
17 said group profile;
18 collecting group information responses other than information item usage from said group
19 related to group information items; and
20 refining said group profile based, at least in part, on said group information responses.
21

22 322. The method of delivering personalized information to users of claim 321, wherein said

1 information items are collected from licensed commercial sources, free sources, and
2 independent authors.

3
4 323. The method of delivering personalized information to users of claim 321, wherein group
5 topical interests, preferences and psychological-types of a plurality of users are fixed in said
6 group profile.

7
8 324. The method of delivering personalized information to users of claim 321, wherein said
9 personalized information is delivered by a channel selected from the group consisting of
10 Internet web pages, FTP downloads, e-mail, facsimile transmission, delivered paper
11 hardcopy, magnetic media, optical media, broadcast TV, and radio.

12
13 325. The method of delivering personalized information to users of claim 321, wherein said group
14 information responses are collected by a channel selected from the group consisting of
15 Internet web pages, e-mail, facsimile transmission, delivered paper hardcopy, and voice mail.

16
17 326. The method of delivering personalized information to users of claim 322, wherein said
18 information items are indexed and classified into topical fields.

19
20 327. The method of delivering personalized information to users of claim 322, wherein said
21 information items are filtered to release a user from information which is excessive or useless
22 by allocating only the most essential pieces of knowledge or information

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328. The method of delivering personalized information to users of claim 327, wherein a *filtering* algorithm reduces a size of an information item to a specific value while preserving general content of said information item as close as possible.
329. The method of delivering personalized information to users of claim 328, wherein a synopsis is generated for an information item on the basis of semantic analysis of said information item.
330. The method of delivering personalized information to users of claim 327, wherein a filtering algorithm reduces a size of an information item by preserving only a part of said information item related to a topical field designated in group profile.
331. The method of delivering personalized information to users of claim 321, wherein a publisher collects said information items.
332. The method of delivering personalized information to users of claim 331, wherein said publisher stores at least a portion of said information items and at least a portion of said group profiles on a publisher database.
333. The method of delivering personalized information to users of claim 321, wherein a portion of information items from said collection is chosen by at least one secondary publisher.

1
2 334. The method of delivering personalized information to users of claim 333, wherein said
3 secondary publisher produces secondary information items and said secondary information
4 items are collected and stored on said publisher database.

5
6 335. The method of delivering personalized information to users of claim 333, wherein said group
7 information responses are collected by said secondary publisher.

8
9 336. The method of delivering personalized information to users of claim 335, wherein said
10 secondary publisher controls release of collected group information responses to said
11 publisher.

12
13 337. The method of delivering personalized information to users of claim 335, wherein said
14 secondary publisher analyzes said group information responses to create information in a
15 form usable by said publisher, said secondary publisher, or another secondary publisher.

16
17 338. The method of delivering personalized information to users of claim 322, wherein
18 independent authors supply specific information items to a publisher or secondary publisher
19 proceeding from their own topical interests

20
21 339. The method of delivering personalized information to users of claim 322, wherein
22 independent authors supply specific information items to a publisher or secondary publisher

1 in reply to requests for specific information.

2
3 340. The method of delivering personalized information to users of claim 339, wherein a
4 publisher of personalized information requests specific information items from independent
5 authors proceeding from said publisher's topical interests, topical field of distributed
6 personalized information, and topical interests of groups of users of personalized
7 information.

8
9 341. The method of delivering personalized information to users of claim 340, wherein said
10 independent authors produce specific information items in response to general interests
11 revealed by said group information responses.

12
13 342. The method of delivering personalized information to users of claim 338, 339, or 341,
14 wherein group information responses to said specific information items are used to rate,
15 compensate, or rate and compensate said independent authors.

16
17 343. The method of delivering personalized information to users of claim 322, wherein said
18 independent authors are paid royalties each time one of their information items is included in
19 a collection of group information items.

20
21 344. The method of delivering personalized information to users of claim 322, wherein said
22 independent authors are paid royalties for submitted information items independently on how

1 many times said information items are actually included in a collection of group information
2 items.

3
4 345. The method of delivering personalized information to users of claim 321, wherein a group of
5 users registers to receive said group information with a publisher or secondary publisher.

6
7 346. The method of delivering personalized information to users of claim 345, wherein each user
8 in said group registers to receive said group information by filling in a standard form

9
10 347. The method of delivering personalized information to users of claim 345, wherein said group
11 of users chooses at least one information collection from a plurality of information
12 collections released by said publisher.

13
14 348. The method of delivering personalized information to users of claim 345, wherein each user
15 in said group supplies an initial field of topical interest.

16
17 349. The method of delivering personalized information to users of claim 348, wherein each user
18 in said group supplies an initial field of topical interest by selecting some topical sections
19 from a given predefined set.

20
21 350. The method of delivering personalized information to users of claim 348, wherein each user
22 in said group supplies an initial field of topical interest by a method chosen from the group

1 consisting of choosing a group profile of one of the earlier registered groups, combining
2 group profiles of any number of groups, specifying a group profile generated by a publisher
3 of said group information, and combinations of any one of these methods with additional
4 selection of some topical sections from a given predefined set.

5
6 351. The method of delivering personalized information to users of claim 348, wherein each user
7 in said group supplies an initial field of topical interest referencing to well-known
8 information sources or information publications.

9
10 352. The method of delivering personalized information to users of claim 345, wherein
11 psychological-type of each user in said group is evaluated by applying psychological tests for
12 input into the group profile.

13
14 353. The method of delivering personalized information to users of claim 345, wherein each user
15 in said group chooses a condition determinative of a periodic delivery of said group
16 information.

17
18 354. The method of delivering personalized information to users of claim 353, wherein a
19 condition determinative of said periodic delivery of said group information is selected from
20 the group consisting of a user's request for specific information, a user-defined schedule, and
21 a specific event chosen by a user.

1 355. The method of delivering personalized information to users of claim 354, wherein a specific
2 event is an accumulation of a user-defined amount of undelivered information items.
3

4 356. The method of delivering personalized information to users of claim 353, wherein said
5 condition determinative of said periodic delivery of said group information is a specific event
6 and the only information item delivered is related to said specific event.
7

8 357. The method of delivering personalized information to users of claim 353, wherein said
9 condition determinative of said periodic delivery of said group information is specified by a
10 user, group of users or by a third party appointed by said user or group of users.
11

12 358. The method of delivering personalized information to users of claim 345, wherein a group
13 profile is created during registration.
14

15 359. The method of delivering personalized information to users of claim 358, wherein at least a
16 portion of information submitted during registration, including user's field of interest, is
17 stored in said group profile.
18

19 360. The method of delivering personalized information to users of claim 345, wherein each user
20 in said group is provided with unique password or identifier which is used to access
21 collections of group information items.
22

1 361. The method of delivering personalized information to users of claim 321, wherein a person
2 learns about an existence of said group information through advertisements and advertising
3 collections of information items distributed by a publisher via generally available printed and
4 electronic media.

5
6 362. The method of delivering personalized information to users of claim 361, wherein said
7 advertising collections of information items are generated on the basis of most common
8 topical interests of registered groups of users of said group information.

9
10 363. The method of delivering personalized information to users of claim 361, wherein some
11 collections of information items generated for groups of users of said personal information
12 are used as advertisements.

13
14 364. The method of delivering personalized information to users of claim 361, wherein
15 advertising collections of information items are periodically updated.

16
17 365. The method of delivering personalized information to users of claim 321, wherein said group
18 information responses are selected from the group consisting of subjective views on said
19 information items, user requests, inquiry responses, and formalized user statements.

20
21 366. The method of delivering personalized information to users of claim 365, wherein said
22 subjective views on said information items are expressed in a form selected from the group

1 consisting of evaluation of quality using a scale, expression of user's opinion about
2 information items, and comments to submitted information items.

3
4 367. The method of delivering personalized information to users of claim 321, wherein collecting
5 responses includes users marking paper hardcopy response forms and machine-reading the
6 data from said forms.

7
8 368. The method of delivering personalized information to users of claim 367, wherein said
9 response forms are transmitted by facsimile and machine-reading is performed by recognition
10 software.

11
12 369. The method of delivering personalized information to users of claim 368, wherein
13 said response forms include a section for users to create e-mail;
14 users address and draft messages in said section; and
15 users indicate whether to send said messages as text or graphics files, wherein
16 said section is recognized as text or graphics by said recognition software; and
17 said message is sent, as addressed, in the indicated format.

18
19 370. The method of delivering personalized information to users of claim 365, wherein said user
20 request expresses a user's interest in receiving future information items related to a present
21 information item.

1 371. The method of delivering personalized information to users of claim 365, wherein said user
2 request expresses user's interest in receiving some additional information items submitted by
3 the same independent author.

4
5 372. The method of delivering personalized information to users of claim 365, wherein a user
6 request contains a priority assigned by said user to requested information items or topical
7 fields.

8
9 373. The method of delivering personalized information to users of claim 372, wherein
10 information items with higher priority are included into issues of personalized information in
11 the priority order.

12
13 374. The method of delivering personalized information to users of claim 372, wherein highest
14 priority is assigned to hot news or other urgent information items or topical fields.

15
16 375. The method of delivering personalized information to users of claim 374, wherein a user
17 orders additional comments to hot news or other urgent information items using a specific
18 request.

19
20 376. The method of delivering personalized information to users of claim 375, wherein a user
21 orders comments reflecting a desired point of view or submitted by an independent author
22 requested by said user.

1
2 377. The method of delivering personalized information to users of claim 365, wherein a user may
3 delete topical sections from their group profile.
4

5 378. The method of delivering personalized information to users of claim 321, wherein each said
6 collection of information items, in addition to information items fitting the group profile,
7 includes some publisher's information items which are deemed to be most important at the
8 time of generation of said collection
9

10 379. The method of delivering personalized information to users of claim 321, wherein a group of
11 users may export their group profile for use by another group.
12

13 380. The method of delivering personalized information to users of claim 379, wherein a group of
14 users may import a group profile that has been exported by another group.
15

16 381. The method of delivering personalized information to users of claim 321, wherein group
17 profiles are used for special reasons selected from the group consisting of marketing
18 researches and interrogation of public opinion.
19

20 382. The method of delivering personalized information to users of claim 321, wherein access to
21 certain information items requires said user to provide a certain response.
22

1 383. The method of delivering personalized information to users of claim 382, wherein said
2 certain response is selected from the group consisting of authorizing payment, authorizing
3 release of user information, viewing advertisements, viewing and registering responses to
4 advertisements, viewing information, viewing and registering responses to information,
5 responding to a questionnaire, and responding to a poll.

6
7 384. The method of delivering personalized information to users of claim 321, wherein said group
8 information is delivered in a form suitable for providing personal organizer functions to said
9 user.

10
11 385. The method of delivering personalized information to users of claim 384, wherein a user may
12 create individual collections of information items from various issues of group information,
13 establish personal information archives, add personal comments on information items, place
14 bookmarks in selected places indicating a time to refer to them in the future or activating
15 upon the occurrence of a user-defined event, and add new information items to the current
16 issue of group information.

17
18 386. The method of delivering personalized information to users of claim 385, wherein individual
19 collections of information items and personal information archives can be organized as
20 plurality of sections associated with various fields of interest of said user or with one of
21 user's projects.

1 387. The method of delivering personalized information to users of claim 321, wherein said group
2 information is delivered in an electronic form provided with interactive tools comprising
3 navigating tools, archiving tools, annotating tools, calendar tools, printing tools, and
4 communication tools.

5
6 388. The method of delivering personalized information to users of claim 321, wherein a logical
7 model of group information is established by a publisher, comprising:
8 methods for group information responses analysis;
9 interfaces of users' workplaces;
10 algorithms for taking into account group profiles during generation of collections of
11 information items for common use; and
12 algorithms for prediction of necessities of users of group information in goods and services
13 through analysis of group information responses

14
15 389. The method of delivering personalized information to users of claim 388, wherein logical
16 models of group information are provided by independent suppliers on request of said
17 publisher.

18
19 390. The method of delivering personalized information to users of claim 321, including
20 organizing multiple levels of primary publishers and secondary publishers that distribute
21 each of said collecting, storing, delivering, and refining steps in a mutually agreed manner,
22 wherein publishers act as primary publishers when they perform the step of collecting

1 information items and act as secondary publishers when they rely on other publishers to
2 perform the step of collecting information items.
3

4 391. The method of delivering personalized information to users of claim 390, wherein said
5 multiple levels of primary publishers and secondary publishers are organized as a multilevel
6 hierarchical structure where the primary publisher is on the top of hierarchy and is
7 responsible for the content of all personal information.
8

9 392. The method of delivering personalized information to users of claim 390, wherein said
10 primary publisher collects information items from licensed commercial sources, free sources,
11 and independent authors.
12

13 393. The method of delivering personalized information to users of claim 392, wherein said
14 primary publisher stores said information items on at least one central database.
15

16 394. The method of delivering personalized information to users of claim 390, wherein said
17 primary publisher provides said secondary publishers with information items they need to
18 generate collections of information items.
19

20 395. The method of delivering personalized information to users of claim 390, wherein said
21 primary publisher is responsible for group information released by said secondary publishers
22 and also for information items submitted to them.

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1
2 396. The method of delivering personalized information to users of claim 390, wherein said
3 secondary publishers either assist said primary publisher in generation and distribution of
4 collections of information items or generate and distribute their own collections of
5 information items.

6
7 397. The method of delivering personalized information to users of claim 390, wherein said
8 collections of information items distributed by said secondary publishers differs from
9 collections distributed by said primary publisher in such a way that both primary and
10 secondary publishers use different approaches to information item selection and different
11 response collection techniques with group information users.

12
13 398. The method of delivering personalized information to users of claim 390, wherein said
14 secondary publishers generate specialized collections of information items by including into
15 said collections some specific information items.

16
17 399. The method of delivering personalized information to users of claim 398, wherein a topical
18 field of said specialized collection of information items is determined by topical interests of
19 said secondary publisher and is established by fixing some topical sections.

20
21 400. The method of delivering personalized information to users of claim 390, wherein said
22 collections of information items distributed by said secondary publisher are generated by said

1 primary publisher on request of said secondary publisher or by said secondary publisher
2 himself using available information items.

3
4 401. The method of delivering personalized information to users of claim 396, wherein at least a
5 portion of collections of information items generated by said secondary publishers is placed
6 into local databases of said secondary publishers.

7
8 402. The method of delivering personalized information to users of claim 396, wherein at least a
9 portion of collections of information items generated by said secondary publishers is
10 transferred into central database of said primary publisher.

11
12 403. The method of delivering personalized information to users of claim 390, wherein at least a
13 portion of information items necessary for generation of said collections of information items
14 is received by said secondary publishers from publishers of higher levels of hierarchy.

15
16 404. The method of delivering personalized information to users of claim 390, wherein at least a
17 portion of information items necessary for generation of said collections of information items
18 is collected by said secondary publisher from licensed commercial sources, free sources, and
19 independent authors.

20
21 405. The method of delivering personalized information to users of claim 404, wherein at least a
22 portion of information items retrieved by said secondary publisher is stored on at least one

1 local database of said secondary publisher.

2
3 406. The method of delivering personalized information to users of claim 404, wherein at least a
4 portion of information items retrieved by said secondary publisher is transferred into at least
5 one central database of primary publisher.

6
7 407. The method of delivering personalized information to users of claim 404, wherein
8 information items retrieved by said secondary publishers are evaluated by primary publisher
9 or one of secondary publishers of higher level of hierarchy in order to make conclusions
10 about their usability in collections of information items.

11
12 408. The method of delivering personalized information to users of claim 390, wherein said
13 secondary publisher distributes said collections of information items completely generated by
14 publishers of higher levels of hierarchy.

15
16 409. The method of delivering personalized information to users of claim 408, wherein said
17 secondary publisher provides users with general purpose or specialized collections of
18 information items.

19
20 410. The method of delivering personalized information to users of claim 409, wherein said
21 secondary publisher influences content of said collections of information items by fixing
22 some topical sections.

1
2 417. The method of delivering personalized information to users of claim 415, wherein at least
3 one secondary publisher establishes his own methods for analyzing group information
4 responses.

5
6 418. The method of delivering personalized information to users of claim 416, wherein said
7 secondary publisher provides said primary publisher or said secondary publisher of higher
8 level of hierarchy with methods and procedures for analyzing group information responses.

9
10 419. The method of delivering personalized information to users of claim 388, wherein said
11 logical model of personal information is established by said primary publisher or a secondary
12 publisher.

13
14 420. The method of delivering personalized information to users of claim 419, wherein said
15 primary publisher establishes restrictions on said secondary publishers to introduce their own
16 logical models of group information.

17
18 421. The method of delivering personalized information to users of claim 419, wherein said
19 secondary publisher establishes restrictions on secondary publishers of lower levels of
20 hierarchy to introduce their own logical models of group information.

21
22 422. The method of delivering personalized information to users of claim 419, wherein said

1 logical model of group information developed or acquired by said primary or said secondary
2 publisher is forwarded to another primary or secondary publisher.

3
4 423. The method of delivering personalized information to users of claim 321, wherein:

5 group profiles are initially formed by selecting a set of N topical fields of interest and
6 defining a significance magnitude for each topical field to create an N-dimensional information
7 space;

8 group profiles are refined by analyzing group information responses to update the
9 significance magnitude for each topical field;

10 a trajectory is interpolated in said information space based on the updated significance
11 magnitudes; and

12 an information vector is defined as a vector tangent to said trajectory with a magnitude
13 defined as the derivative of the trajectory function at a given point to characterize how fast and in
14 what directions a group profile is changing.

15
16 424. The method of delivering personalized information to users of claim 423, including
17 analyzing a plurality of information vectors to assist in directing said step of collecting
18 information items.

19
20 425. The method of delivering personalized information to users of claim 423, including
21 analyzing a plurality of information vectors to predict users' necessities in some goods and
22 services.

1
2 426. The method of delivering personalized information to users of claim 321, wherein user
3 profile is formed for each user in a group.
4

5 427. The method of delivering personalized information to users of claim 426, wherein a portion
6 of information items delivered to said user as personalized information is chosen based on
7 said user's user profile.
8

9 428. The method of delivering personalized information to users of claim 427, wherein each user
10 in a group specifies the portion of information items delivered based on said user's user
11 profile and the portion of information items delivered based on said group profile.
12

13 429. A personal interactive information system, comprising:
14 at least one database;
15 a plurality of information items stored on said at least one database;
16 at least one issue-delivery profile stored on said at least one database;
17 means for periodically delivering a collection of information items to each user as an issue of
18 personalized information, wherein at least a portion of information items from said issue is chosen
19 based on said issue-delivery profile;
20 means for collecting responses related to said personalized information; and
21 means for refining said issue-delivery profile based, at least in part, on said responses.
22

1 430. The personal interactive information system of claim 429, wherein said at least one database
2 is associated with an entity selected from the group consisting of publishers and secondary
3 publishers.

4
5 431. The personal interactive information system of claim 429, wherein said issue-delivery profile
6 is selected from the group consisting of individual user profiles, group profiles for a plurality
7 of users associated as a group based on a common attribute, publisher profiles, and
8 combinations thereof.

9
10 432. The personal interactive information system of claim 429, wherein said responses are
11 selected from the group consisting of each user's responses and group responses.

12
13 433. The personal interactive information system of claim 429, wherein said information items
14 include licensed commercial material, free material, and material produced by independent
15 authors.

16
17 434. The personal interactive information system of claim 433, including means for collecting
18 information items from various information sources.

19
20 435. The personal interactive information system of claim 434, wherein at least a portion of
21 collected information items is stored on at least one database.

1 436. The personal interactive information system of claim 429, including means for fixing topical
2 interests, preferences and psychological-type of each user or a plurality of users in said at
3 least one issue-delivery profile.

4
5 437. The personal interactive information system of claim 429 comprising a plurality of issue-
6 delivery profiles, wherein at least a portion of said issue-delivery profiles is stored on said at
7 least one database.

8
9 438. The personal interactive information system of claim 429, wherein said means for
10 periodically delivering personalized information are chosen from the group consisting of
11 Internet web pages, FTP downloads, e-mail, facsimile transmission, delivered paper
12 hardcopy, magnetic media, optical media, broadcast TV, and radio.

13
14 439. The personal interactive information system of claim 429, wherein said means for collecting
15 responses are chosen from the group consisting of Internet web pages, e-mail, facsimile
16 transmission, and delivered paper hardcopy, and voice mail.

17
18 440. The personal interactive information system of claim 429, including specific means for
19 indexing and classifying said information items into topical fields.

20
21 441. The personal interactive information system of claim 429, including specific means for
22 information items filtering to release a user from information which is excessive or useless

1 by allocating only the most essential pieces of knowledge or information.

2
3 442. The personal interactive information system of claim 429, including at least one publisher
4 having said at least one database, said means for periodically delivering, said means for
5 collecting responses, and said means for refining.

6
7 443. The personal interactive information system of claim 442, including at least one secondary
8 publisher having a second database, a second means for periodically delivering, and a second
9 means for refining.

10
11 444. The personal interactive information system of claim 443, wherein said secondary publisher
12 produces secondary information items and said secondary information items are collected
13 and stored on at least one database.

14
15 445. The personal interactive information system of claim 443, wherein said secondary publisher
16 has a second means for collecting responses.

17
18 446. The personal interactive information system of claim 445, wherein said secondary publisher
19 includes a filter to control release of collected responses to said publisher.

20
21 447. The personal interactive information system of claim 445, wherein said secondary publisher
22 includes means to analyze said responses to create information in a form usable by said

1 publisher, said secondary publisher, or another secondary publisher.

2
3 448. The personal interactive information system of claim 429, including independent authors to
4 supply information items to a publisher or secondary publisher.

5
6 449. The personal interactive information system of claim 448, including means for supplying
7 information items to said publisher or secondary publisher by independent authors.

8
9 450. The personal interactive information system of claim 448, including means to order specific
10 information items from independent authors.

11
12 451. The personal interactive information system of claim 448, including specific information
13 items produced by said independent authors in response to general interests revealed by user
14 responses.

15
16 452. The personal interactive information system of claim 451, wherein said responses to said
17 specific information items include ratings of said independent authors.

18
19 453. The personal interactive information system of claim 448, including means for royalties to be
20 paid to said independent authors each time one of their information items is included in an
21 issue of personalized information.

1 454. The personal interactive information system of claim 448, including means for royalties to be
2 paid to said independent authors for submitted information items independently on how
3 many times said information items were really included in an issues of personalized
4 information.

5
6 455. The personal interactive information system of claim 429, including means for users to
7 register to receive said personal information with a publisher or secondary publisher.

8
9 456. The personal interactive information system of claim 455, wherein means for users to register
10 comprise specific means for filling in a registration form, choosing at least one of personal
11 information collections distributed by a publisher or secondary publisher and supplying an
12 initial field of topical interest or initial issue-delivery profile.

13
14 457. The personal interactive information system of claim 456, wherein said user is provided with
15 specific means to supply an initial field of topical interest selecting some topical sections
16 from a given predefined set.

17
18 458. The personal interactive information system of claim 456, wherein said user is provided with
19 specific means to supply an initial field of topical interest referencing to well-known
20 information sources or information publications.

21
22 459. The personal interactive information system of claim 456, wherein said user is provided with

1 specific means to choose initial issue-delivery profile from the group consisting of user
2 profiles of earlier registered users, combined user profile of any number of early registered
3 users, group profile of one of the earlier registered groups, combined group profile of any
4 number of earlier registered groups, and specific issue-delivery profile generated by a
5 publisher.

6
7 460. The personal interactive information system of claim 459, wherein said publisher has means
8 to combine issue-delivery profiles of any number of early registered users or groups of users.

9
10 461. The personal interactive information system of claim 459, wherein publisher has means to
11 generate specific issue-delivery profile.

12
13 462. The personal interactive information system of claim 455, including means to evaluate user's
14 psychological-type by applying psychological tests for input into said issue-delivery profile.

15
16 463. The personal interactive information system of claim 455, wherein said user is provided with
17 specific means to choose a condition determinative of a periodic delivery of said personal
18 information from the group consisting of user's request for specific information, a user-
19 defined schedule, and a specific event chosen by a user.

20
21 464. The personal interactive information system of claim 463, wherein said specific event is an
22 accumulation of a user-defined amount of undelivered information items.

1 topical interests of registered users of personal information, and using as advertising
2 collections some collections of information items generated for users of personal
3 information.

4
5 471. The personal interactive information systems of claim 429, wherein means for collecting
6 subjective responses from each user comprise specific means for collecting subjective views
7 on information items, user requests, inquiry responses, and formalized user statements.

8
9 472. The personal interactive information system of claim 471, wherein said means for collecting
10 subjective views on information items are selected from the group consisting of means to
11 evaluate quality using a scale, means to express user's opinion about information items, and
12 means to comment on submitted information items.

13
14 473. The personal interactive information system of claim 471, including means for users to
15 require for specific service selected from the group consisting of continuation of information
16 item in at least one of the next issues of personalized information, providing with some
17 additional information items submitted by the same independent author, assigning a priority
18 to information item or topical field, providing with some additional comments to hot news or
19 other urgent information items, eliminating from issue-delivery profile some topical sections
20 said user or group of users is not anymore interested in.

21
22 474. The personal interactive information system of claim 429, including means for export and

1 import said issue-delivery profiles from one user or group of users to another.

2
3 475. The personal interactive information system of claim 429, including means to use issue-
4 delivery profiles for special reasons selected from the group consisting of: marketing
5 research and interrogation of public opinion.

6
7 476. The personal interactive information system of claim 429, including means to restrict access
8 to certain information items without a certain response to submitted information.

9
10 477. The personal interactive information systems of claim 429, wherein user is provided with
11 specific means to support personal organizer functions and personal information is delivered
12 in a form suitable for providing said functions.

13
14 478. The personal interactive information system of claim 477, wherein said means to provide
15 user with personal organizer functions are selected from the group consisting of means to
16 create individual collections of information items from various issues of personalized
17 information, means to establish personal information archives, means to add personal
18 comments on information items, means to place bookmarks in selected places indicating a
19 time to refer to them in the future or activating upon the occurrence of a user-defined event,
20 and means to add new information items to the current issue of personalized information.

21
22 479. The personal interactive information system of claim 478, wherein means to create individual

1 collections of information items are suitable for organizing personal information archives as
2 plurality of sections associated with various fields of interest of said user or with one of
3 user's projects.

4
5 480. The personal interactive information system of claim 429, wherein user is provided with
6 interactive tools comprising navigating tools, archiving tools, annotating tools, calendar
7 tools, printing tools, and communication tools.

8
9 481. The personal interactive information system of claim 429, wherein a logical model of
10 personal information comprising:
11 methods for users' responses analysis;
12 interfaces of users' workplaces;
13 algorithms for taking into account issue-delivery profiles during generation of collections of
14 information items for common use; and
15 algorithms for prediction of necessities of users of personal information in goods and services
16 through analysis of users' responses is established by a publisher.

17
18 482. The personal interactive information systems of claim 481, including independent suppliers
19 to provide said publisher with logical models of personal information.

20
21 483. The personal interactive information system of claim 429, including organizing multiple
22 levels of primary publishers and secondary publishers that distribute each of said collecting,

1 storing, delivering, and refining steps in a mutually agreed manner, wherein publishers act as
2 primary publishers when they perform the step of collecting information items and act as
3 secondary publishers when they rely on other publishers to perform the step of collecting
4 information items.

5
6 484. The personal interactive information system of claim 483, including means to support
7 organizing multiple levels of primary publishers and secondary publishers as a multilevel
8 hierarchical structure.

9
10 485. The personal interactive information system of claim 483, wherein said primary publisher
11 has means for collecting information items from licensed commercial sources, free sources,
12 and independent authors.

13
14 486. The personal interactive information system of claim 485, wherein at least a portion of
15 collected information items is stored on a at least one primary publisher's database.

16
17 487. The personal interactive information system of claim 483, wherein said secondary publishers
18 have means for periodically delivering collections of information items to each user as
19 personalized information.

20
21 488. The personal interactive information system of claim 483, wherein at least a portion of said
22 secondary publishers has means to generate collections of information items.

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489. The personal interactive information system of claim 488, wherein at least a portion of collections of information items generated by said secondary publisher is placed into local database of said secondary publisher.

490. The personal interactive information systems of claim 488, wherein at least a portion of collections of information items generated by said secondary publishers is transferred into at least one central database of said primary publisher.

491. The personal interactive information system of claim 483, wherein said primary publisher has means to provide said secondary publishers with information items secondary publishers need to generate collections of information items.

492. The personal interactive information system of claim 483, wherein at least a portion of said secondary publishers has means for collecting information items from licensed commercial sources, free sources, and independent authors.

493. The personal interactive information system of claim 492, wherein at least a portion of information items retrieved by said secondary publisher is stored on at least one local database of said secondary publisher.

494. The personal interactive information system of claim 492, wherein at least a portion of

1 information items retrieved by said secondary publisher is transferred into at least one
2 central database of said primary publisher.

3
4 495. The personal interactive information system of claim 483, wherein a user registers to receive
5 personal information with said primary publisher or said secondary publisher and submits an
6 initial issue-delivery profile.

7
8 496. The personal interactive information system of claim 495, wherein said issue-delivery profile
9 submitted during registration is stored on at least one local database of said secondary
10 publisher said user has registered with.

11
12 497. The personal interactive information system of claim 495, wherein said issue-delivery profile
13 is transferred into at least one central database of said primary publisher.

14
15 498. The personal interactive information systems of claim 484, including means to forward user
16 responses collected by said secondary publisher to said primary publisher or secondary
17 publisher of higher level of hierarchy.

18
19 499. The personal interactive information system of claim 483, wherein at least one secondary
20 publisher establishes his own methods for analyzing user responses.

21
22 500. The personal interactive information system of claim 499, wherein secondary publisher has

1 means to provide said primary publisher or secondary publisher of higher level of hierarchy
2 with methods and procedures for analyzing user responses.

3
4 501. The personal interactive information system of claim 481, wherein said logical model of
5 personal information is established by said primary publisher or a secondary publisher.

6
7 502. The personal interactive information system of claim 501, including means to restrict said
8 secondary publishers to introduce their own logical models of personal information.

9
10 503. The personal interactive information system of claim 501, including means to forward said
11 logical model of personal information developed or acquired by said primary or said
12 secondary publisher to another primary or secondary publisher.

13
14 504. The personal interactive information system of claim 429, wherein:
15 issue-delivery profiles are initially formed by selecting a set of N topical fields of interest and
16 defining a significance magnitude for each topical field to create an N-dimensional information
17 space;

18 refining issue-delivery profiles by analyzing user responses to update the significance
19 magnitude for each topical field;

20 interpolating a trajectory in said information space based on the updated significance
21 magnitudes; and

22 defining an information vector as a vector tangent to said trajectory with a magnitude defined

1 as the derivative of the trajectory function at a given point to characterize how fast and in what
2 directions an issue-delivery profile is changing.

3

4 505. The personal interactive information system of claim 504, including means for analyzing a
5 plurality of information vectors to assist in directing said step of collecting information items
6 and predict users' needs for some goods and services.

ABSTRACT OF THE DISCLOSURE

The interactive personal information system and method delivers personalized information to users by having a publisher, or a multilevel structure of primary and secondary publishers, collect information items into at least one database for periodic delivery of collections of information items to users as personalized information. The collections are selected based on user profiles that are refined based on collecting and analyzing subjective responses from the users. The personalized information can be delivered in various formats and can include various interactive tools to increase its utility. Different levels of publishers can provide information items and response analysis to other publishers. Information items can be sought by publishers based on user requests and response analysis.

Basic Personalized Information System

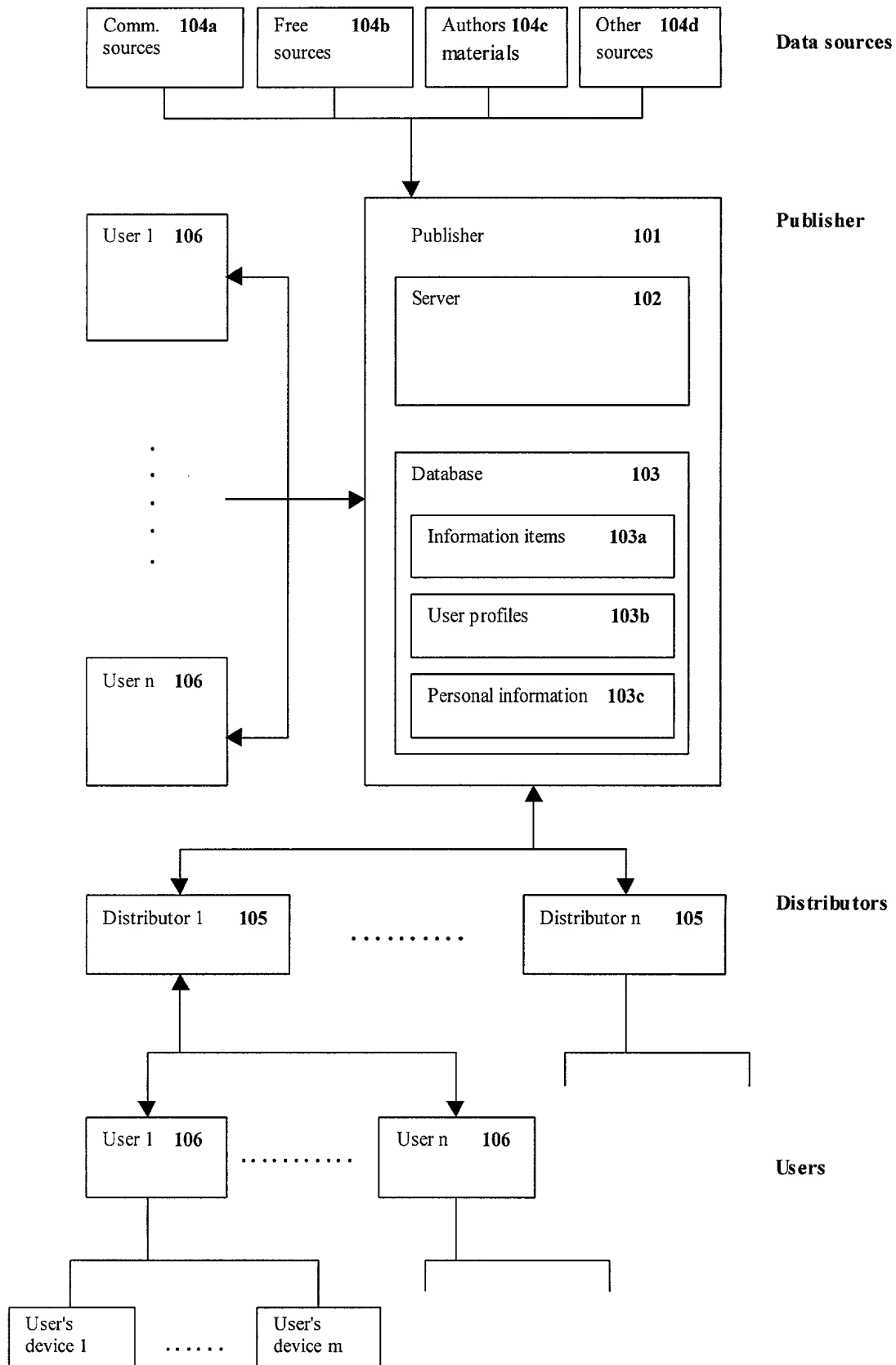


Figure 1

System structure and data flow

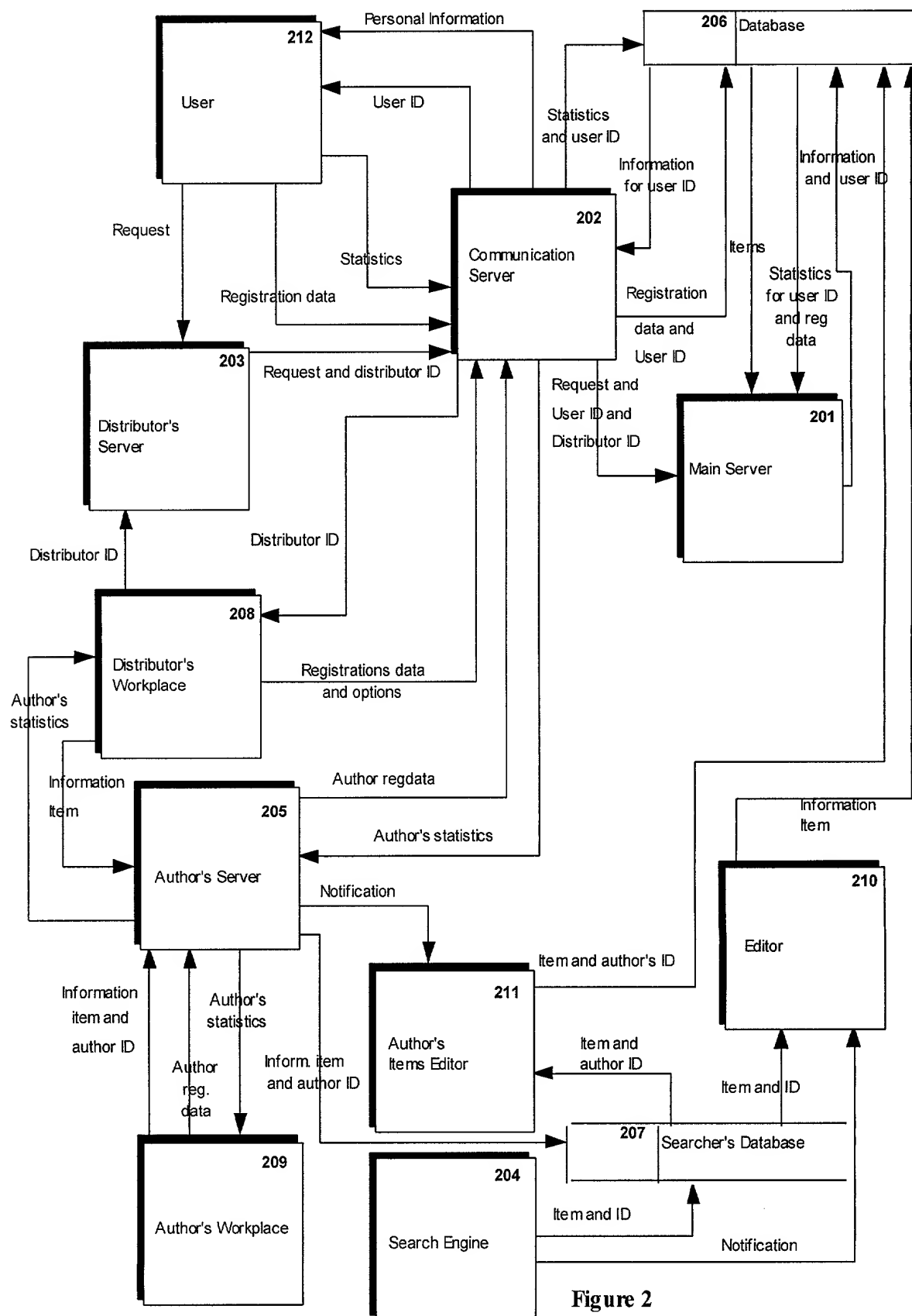


Figure 2

[illegible]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Oleg Zommers

Serial No.: Not Yet Assigned

Group Art Unit:

Filed: HEREWITH

Examiner:

FOR: **INTERACTIVE PERSONAL INFORMATIONAL SYSTEM AND METHOD**

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As below inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled **INTERACTIVE PERSONAL INFORMATIONAL SYSTEM AND METHOD**, the specification of which is attached hereto.

I hereby state that I have reviewed and understand the content of the above-identified specification, including the claims, as amended by any amendment referred to above.

I hereby claim the benefit under U.S.C. §119(e) of the United States provisional application no. 60/158,562, filed October 8, 1999.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):

Serial No. 99119985, Continuation-In-Part, Russia, 22 September 1999.

009290-9122960

Power of Attorney: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

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I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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